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IBERT



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CAN HAVE IN A TIGHT SPOT



## THE 1935 LACELESS BASKETBALL!

**FASTER!** Catch—shoot... in one motion. No dangerous delays juggling to get the lace on top!

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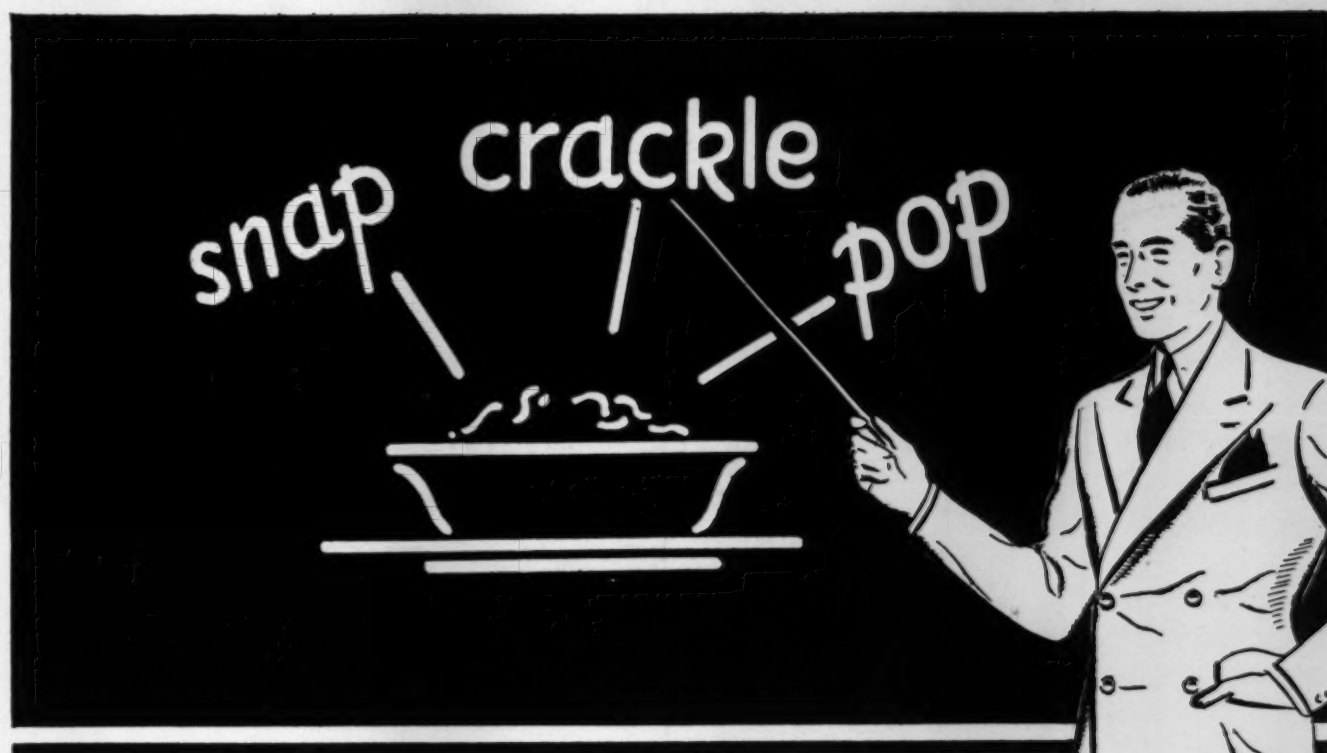
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COACH \_\_\_\_\_

SCHOOL OR COLLEGE \_\_\_\_\_

CITY AND STATE \_\_\_\_\_

# SCHOLASTIC COACH

Reg. U. S. Pat. Off.

IN THIS ISSUE VOL. 5, NO. 3

HERE BELOW	5
BASKETBALL STRATEGY FOR 1935-36	7
By George R. Edwards	
COACHES' ASSOCIATIONS	8
TACKLE PLAYING GUARD	8
CENTER PASSING BALL	9
CROSS-CHARGING	10
VARIATIONS ON THE SPINNER THEME	11
TACKLE BEING TAKEN (A) OUT (B) IN	13
SURVEY OF ARIZONA H.S. COACHES	14
By Mark MacIntosh	
NEW BOOKS ON THE SPORTSHELF	16
SECOND WIND	22
By Peter V. Karpovich	
A PROGRAM OF HEALTH INSTRUCTION, III	24
By W. G. Moorhead	
FOR YOUR BULLETIN BOARD	25
INTERNAT. SWIMMING COACHES' ASSCN.	31
OVER THE FIELD	32
Hyman Krakower	
FOOTBALL OFFICIALS AT ODDS	34

JACK LIPPERT, Editor OWEN REED, Associate Editor

The editor will be glad to consider any manuscripts and photographs submitted to him for publication, if accompanied by stamped addressed envelope for return, if unsuitable.

Scholastic Coach is issued monthly ten times during the academic year (September through June) by Scholastic Corporation, M. R. Robinson, president, Publishers of *Scholastic*, the American High School Weekly for students; and *Highschool*, fortnightly for classroom teachers. Address all editorial and advertising communications to Scholastic Coach, 250 E. 43rd Street, New York, N. Y.

G. Herbert McCracken, publisher; S. Z. Oppenheim, advertising manager. Western advertising manager, Robert S. Wright, 35 East Wacker Drive, Chicago, Ill.

Subscriptions for the United States, \$1.50 a year. Canada and other foreign, \$2. Back issues: 25 cents, current volume; 50 cents, previous volumes. All correspondence concerning subscriptions and circulation should be addressed to Circulation Department, Chamber of Commerce Bldg., Pittsburgh, Penna.

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Scholastic Coach is a member of the controlled Circulation Audit, a bureau for examining and

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## ROUTING SLIP

Cut this out and clip it to the front cover. After reading this issue, check your classification and write in the names of other members of the coaching staff who want to see the magazine.

- ☐ Principal
- ☐ Director of boys' athletics
- ☐ Director of girls' athletics
- ☐ Football coach
- ☐ Basketball coach
- ☐
- ☐

Return to:



Two padded forms, embodiments of muscled skill, racing across white lines out beyond the line of scrimmage. One of them lithe, graceful, intent upon eluding, upon winning a free path to the goal; the other, alert and stalwart, determined to make a clean hard tackle. The two bodies slowly converge . . .

approach each other . . . and then comes that moment when the defender hurls himself in one supreme attack, when the attacker attempts to defend with a sudden deceptive change of pace, a feint of feet and legs. *This is the moment when split seconds count.*

Footwear of Kangaroo was made for a time like this! Its tightly interlaced fibres have a strength that defies the gruelling sudden jerk of a quick turn, that makes possible a faster, more subtle footwork, an unhampered use of surging power. Kangaroo leather is 17% stronger, weight for weight, than any other leather. It is soft and pliable; strong, yet it gloves the feet like fine kid.

Your varsity players need shoes of Kangaroo to make their best efforts *effective* during those moments when split seconds count. The scrub and dormitory team players need Kangaroo for the safety and foot health they bring. Specify genuine Kangaroo whenever you order shoes!

AUSTRALIAN  
**KANGAROO**  
**TANNED IN**  
**AMERICA**



# SMALL TURNOUT?



*Then you'll need Seal-O-San this year SURE!*

**F**EWER CANDIDATES for this year's team? A smaller number of reserves? Then you cannot risk starting the season on a slippery floor. To have one of your regulars benched by a skid or fall means the breaking up of your winning combination . . . a lowering of morale . . . the blasting of championship hopes.

With Seal-O-San on your gymnasium floor, your squad remains at the peak of condition. Sprains and torn ligaments—the results of skids and falls on slippery floors—no longer keep your best players out of the line-up. For Seal-O-San provides 100% sure-footing.

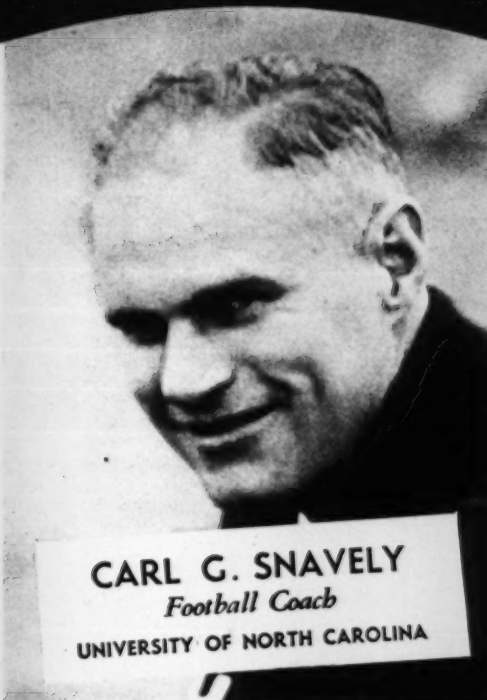
Moreover, dribbling, pivoting, and footwork improve immediately on the non-slippery Seal-O-San surface. Plays "click". With no floor injuries to handicap teamwork, you get the brand of passing and shooting you've always wanted.

Finish your gym floor with Seal-O-San *now*. It is low in cost, easy to apply, economical to maintain. And like 3500 other coaches, you'll find it a great aid in winning faster, cleaner games.

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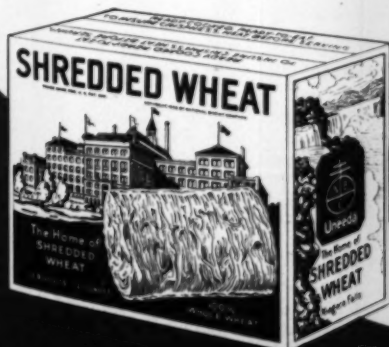
**SEAL-O-SAN**  
MAKES FLOORS NON-SLIPPERY

# BULLETIN



## COACH SNAVELY'S RULES FOR KEEPING PHYSICALLY FIT

1. Get into condition by a GRADUAL approach to it.
2. Don't play the strenuous games until you have been examined and passed by your doctor or physical director.
3. In a game, take advantage of opportunities to relax. This is not the same thing as loafing. It is merely a distribution and investment of your energy to get the MOST out of it through the game as a WHOLE.
4. In cold weather dry your hair carefully before going out of doors from the locker room.
5. Give immediate attention to every injury, cut or bruise, no matter how minor.
6. Concealing an injury or ailment "for the sake of the team" may be just the *wrong* way to serve your team.
7. Keep your athletic clothing clean.
8. Wear equipment that gives you ample protection with maximum freedom of movement.
9. Don't wipe off perspiration with a towel that has been thrown along the floor, or has been otherwise subjected to dirt.
10. Observe sensible rules of diet; eat good food carefully selected, do not over-eat before a game.
11. Drink out of hygienic fountain or paper cups.
12. Eliminate regularly.



**EAT SHREDDED WHEAT FOR HEALTH AND ENERGY**

One of a series of posters issued in the interest of good health by **SHREDDED WHEAT**

# A SUGGESTION THAT KEEPS YOUR HAND IN EVERY MINUTE OF THE GAME!



Diet is only a part of the job of keeping that team of yours in condition. But hundreds of teams today are feeling the beneficial effects of a daily breakfast of crisp, delicious Shredded Wheat.

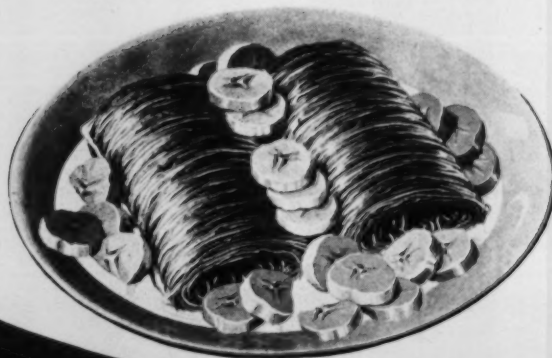
When you recommend Shredded Wheat to the squad you know they're getting a perfect balance of nature's vital health elements. For

Shredded Wheat is 100% whole wheat—nothing added, nothing taken away. Each golden-brown biscuit supplies just the right proportion of mineral salts, calcium, carbohydrates, proteins, vitamins, phosphorus, iron and bran. Suggest Shredded Wheat today. It's one way of keeping your hand in every play with a food that helps build quick energy and lasting stamina.



# SHREDDED WHEAT

A Product of NATIONAL BISCUIT COMPANY



ON THE OTHER SIDE OF THIS PAGE IS A POSTER FOR YOUR BULLETIN BOARD. IF YOU'D LIKE EXTRA COPIES FREE FOR GYM AND ASSEMBLY HALL BULLETIN BOARDS, SEND A POSTCARD TO NATIONAL BISCUIT COMPANY, EDUCATIONAL DEPT., 449 W. 14th ST., NEW YORK CITY.



# HERE BELOW

**Wanted: A Game for Primates.  
Gala time at Multnomah.  
Footlights for Coach.**

**W**HAT this country needs is a game we can play and watch without making monkeys of ourselves. At baseball games we thumb our nose at the umpire; at football games we tear down the goalposts and get drunk; at basketball games we hoot and jeer; and at professional boxing and wrestling we do such things as to cause even the monkeys to disown us as descendants.

School people simply will not stand for this sort of thing at games played under their auspices, and while they are not always successful in controlling crowd behavior, they are usually firm in their disapproval of rowdiness.

When we say that what this country needs is a game nationally popular from both a players' and spectators' viewpoint, in which everybody joins in active obeisance to Sportsmanship, we are not kidding. We would like to see Americans develop some sport to the point where through it they would always express the best in them. The more farsighted college and school authorities are attempting to bring football to this Elysian state, but we doubt that it will ever arrive there as long as winning is regarded as more important than the game.

Sports are a vital part of a modern people's life, and if you would understand the culture of a people you must look into their sports. Just consider how much of English culture is realized in their game of cricket. Cricket is a spirit as well as a sport, and is a guiding principle in the English way of life. When the English play cricket they are expressing their ideals. No other country can say as much of one of its games. What we do in baseball, for instance, would be blasphemy on the cricket field—rattling the pitcher, shouting at the other players in an effort to disconcert them, becoming indignant in protest over a doubtful decision. It just isn't cricket.

So, whether we like it or not, the English are one up on us and the rest of the world in this matter of having a game (which in itself is a pretty tame affair) in which they always express the finest side of their natures.

This is a considerable achievement for a game and for a people. It is well known to what extremes the English will go once they are off the cricket

field, but the fact remains that on it they observe the highest standards of player and crowd behavior. That is the important point: Cricket always stands as the ideal—a living, real, playable ideal.

Perhaps it requires some easy-going game like cricket in order to bring the ideal to life. We hold enough hope for other countries besides England to believe that some other game can be made to do the same trick. It has to be a team game, and it has to have national appeal to both spectators and players. And it doesn't necessarily require white pants. What do you suggest?

## Color & Fireworks at Portland

**S**EVERAL years ago when the Portland (Ore.) high schools found that football was not paying for itself they did not throw up their hands in despair and start playing touch football. Not these hardy souls. They were determined to have the real stuff, and in order to get the money to pay for it someone conceived the idea of a football carnival in which the eight high schools of the city would participate and share the gate receipts. Last year 20,177 persons bought tickets, and this year the attendance was even better.

The football carnival as Portland has constructed it is built around a full-length game between two of the eight high school teams. Which two will play not even the teams themselves know until they have all marched on to the field in full playing equipment, behind their school bands, and witnessed the drawing which determines the order in which the teams will meet in the first round of the schedule. After each pair of names has been drawn from the hat, fireworks are set off, displaying the colors of the two schools drawn. The first three pairs drawn are scheduled to play on subsequent dates, and the remaining fourth pair become the teams who are to play on the spot. All the teams appear in their new gear, and vie with each other to achieve the most brilliant effect. The Washington H.S. team, drawn with Commerce H.S., to play the opening game this season, appeared with the ends and backfield men wearing sparkling yellow jerseys and brilliant red pants, and the tackles and guards in a more subdued maroon and gold.

Between the halves, a contest among rival cheer leaders was staged, the judges basing their verdict on not how much noise the cheer leaders succeeded in eliciting from their respective student bodies, but on how well they per-

formed the acrobatics of their duties.

All in all it must have been a gala time in Multnomah stadium. We recommend it for communities suffering from football depression, if there are any such communities. And we particularly recommend the brilliantly colored uniforms. It is great stuff.

## The coach on Broadway

**I**N "Remember the Day," a new play by Philip Dunning which is one of the season's hits on Broadway, a high school athletic coach is one of the leading players. We were surprised, and pleased, to see that this character was revealed as an intelligent, personable and well-bred man—he happens to be a young man of about 30 in the play. We were surprised because usually when play directors, movie producers and fiction writers have an athletic coach for one of their characters they make him out to be either a mug or, going to the other extreme, some sort of demi-god. It must never occur to them that he can be an intelligent mortal who doesn't talk and look like a hard-boiled egg, and who, on the other hand, is not a saint capable of no wrongdoing. The stage and screen are notorious also for their misrepresentation of clergymen. They



usually show them as hands-folded, heads-to-heaven gentlemen who have one foot in the clouds and the other in the grave.

The *New York Times* critic in his review of "Remember the Day," spoke of the performance of the athletic coach by Russell Hardie as "sensitive, beautifully restrained."

The hero of the play is a 15-year-old athlete who idolizes his coach. At the same time the boy is in love with his homeroom teacher, played by Francesca Bruning. When the boy discovers that his coach and his teacher are in love with each other he goes through an emotional anguish which only a first-class actor could make reasonable on the stage. Young Frankie Thomas as the boy, Dewey Roberts, is that actor.

# NOW *about those basketball uniforms!*

## SHIRTS

Wilson offers you a complete line of Basketball shirts. Stock models and special order merchandise. Styles are correct and up-to-the-minute. There is a wide range of materials and colors to choose from. The new special Basketball Equipment Catalogue will give you school prices and actual swatches to choose from.

## PANTS

Team appearance unquestionably has its effect upon the quality of play. For this reason the ingenuity of Wilson designers and fine factory tailoring does much to make Wilson Basketball pants popular. Wilson designs are not only snappy in appearance but meet discriminating demands. The new Basketball Catalogue shows a multitude of patterns and a variety of colors and materials. Both stock and made to order.

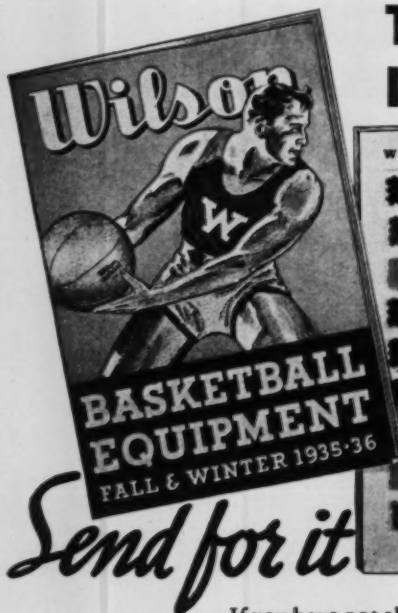
## SHOES

Leading Basketball authorities are responsible for the Wilson line of Basketball shoes. There are many outstanding styles. All incorporating pet features sponsored by men who have made a conscientious study of the demands of the game. These are fully described and illustrated in the new Basketball Catalogue.

## • *and warm-up apparel*

When you buy Wilson Warm-Up Apparel you can be sure that you are getting full size garments. Special stress is laid upon this point in all Wilson designs. Plenty of freedom for action is insisted upon. You will also find genuine elasticity in all rib stitching. This apparel, in most cases, is

tailored to your order and made in our own plant. Full value, high quality materials are used in every garment. A wide assortment of colors and materials is available at all times. The new catalogue gives a comprehensive description of this line.



## THE NEW CATALOGUE IS NOW READY



## Actual Swatches

Here is a catalogue that has been planned to give intelligent help to the coach or athletic director. Descriptions are complete and well illustrated. School prices are plainly shown and featured. Actual material swatches greatly facilitate ordering.

*Send for it*

If you have not already received a copy of this helpful book send for one at once. Either through your dealer or direct to the Wilson factory at 2037 Powell Avenue, Chicago.

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Chicago, New York and Other Principal Cities

**Wilson** SPORTS EQUIPMENT



# BASKETBALL STRATEGY FOR 1935-36

By George R. Edwards

Missouri coach sees the fast break encouraged by new curb on the pivot man

This is the first of a series of two articles the coach of the University of Missouri will write on basketball strategy for 1935-36. This article deals with offense; the second, to appear in the December issue, will deal with defense.

**C**OMPLAINTS have been voiced during the last few years that teamwork in basketball was becoming so standardized that continued public interest was being endangered. To escape this peril many adherents of the game have demanded a greater variety of team offensive stunts in which more unexpected and dramatic features prevailed. Critics of too much standardization have hinted that coaches, particularly those with winning records, have shown a pronounced tendency to become too well satisfied with their methods—a condition which retards progress. Predictions that coaching lethargy would hinder the game's popularity, and requests that some authority deliver an awakening jolt have become increasingly numerous.

If any serious danger did exist it was effectively checked by the National Basketball (rules) Committee when it announced the rules changes for the coming season. Additions or restrictions which will affect, to a greater or lesser degree, the offensive floor tactics of all teams were adopted. To retain scoring power and still stay within the rules will keep coaches busy during 1935-36 developing or adapting team maneuvers. The details of such developments will remain unknown until the season is well under way, but in the meantime there will probably be enough upsets and surprises to gladden the hearts of the most ardent thrill seekers.

## Two major changes

A review of the rules modifications shows that the changes largely consist of clarifications and additions which simply smooth out some of the irritating and inconvenient features. Two changes, however, may be considered of major importance as one or the other will have a decided influence upon team offense in every game.

Rule 13, Section 5, now provides that after a successful freethrow following a personal foul, the ball is to be put in play by the team scored against from any point out of bounds on the end of the court where the freethrow was made. The new provision

is a compromise between the proposals of those who desired elimination of the center jump, and the pleas of others who desired its retention. With the center jump eliminated after a successful freethrow on a personal foul but retained under all other conditions, it should be possible to obtain accurate estimates of the value of center jump modifications.

## Referee need not handle ball

Since the referee is not required to handle the ball on this type of out-of-bounds play, the customary let-down after a successful freethrow will be eliminated and play will resume much more quickly. The scoring team must be on its toes or an alert opponent will step out with the ball and start a furious fast-break assault. Also reduction of the lag following a freethrow will add an appreciable amount of time to the play in each half. Another minor feature concerns the centers. While the tall, good jumping center still will be an important factor, his value will be slightly reduced by the new rule, as there will be fewer center jumps in every game.

It is probable, too, that some interesting situations will develop in the closing minutes of tight games. Here is one possibility: A team which is behind by one point late in the game finds its opponents successfully dogging (freezing) the ball. It would appear to be good strategy for a defensive player to foul an opponent intentionally. The ethics of such a move



might be questionable, but the fact remains that the fouling team will have two opportunities to obtain the ball. If the freethrow is missed no damage has been done and there is a splendid chance for ball recovery. Should the freethrow be made the score margin would be increased to two points, but the fouling team would be certain of ball possession with a fine opportunity to tie the score.

A summary of the effects of the new rule upon the game indicates that the

fast break will become a more common means of attack; faster resumption of play will require more player endurance; the addition of a little more playing time should result in more scoring attempts and greater continuity of action; and some interesting problems will be presented in the last few minutes of close games.

## The pivot attack curtailed

The change, however, which most drastically affects teamwork concerns the restrictions on offense within the freethrow lane and circle. Rule 14, Section 12, now states that a player may not remain in his freethrow area, with or without the ball, for longer than three seconds while the ball is in possession or control of his own team. In other words, the rule makers felt that the single pivot post play was a detriment to the game and they adopted this provision as a certain means of removing that type of offense.

Considering the fact that a vast majority of teams built almost their entire scheme of offense around this formation one can easily visualize the effect this change will have. The details of operation of plays, and the exact location of the post have varied, but the principles of play have been nearly identical everywhere. A team with one outstanding individual in this position was always dangerous even though the other four players were only of ordinary ability. Many, many games were contests between pivot posts rather than battles between well coordinated teams.

The most effective floor position for the post player was found to be in the lane or part of the circle from six to ten feet from the basket. When drawn or forced out of the area his efficiency as a scorer or passing hub was greatly reduced. The strife between a post and his guard for favorable positions in this area constituted the most unsatisfactory feature of basketball. The new rule permits a post to stand near the basket but he must stay, except for short intervals, outside the lane where his range of movement is so restricted that he can be guarded more easily.

It certainly appears that the rule places an effective ban on the single pivot post attack and teams which have depended upon it must change to other schemes in which all five players

[Continued on page 29]



## COACHES' ASSOCIATIONS

News and comment from high school coaches' associations

### Missouri

**A**S reported in this column last month, the Board of Control of the Missouri H.S. Coaches' Assen. is on record as being opposed to the existence of a second set of football rules, not because these rules (National Federation rules) are necessarily better or worse than the N.C.A.A. rules, but because the Board feels that one set of rules should be made to apply to both colleges and high schools. Since this is the first season the National Federation rules have been official rules of the Missouri State H.S. Athletic Assen., it was not until well on in October that coaches' opinions, based on actual game experience with the new rules, could be obtained. The conductor of this column can now report such opinions. He asked prominent coaches in different sections of the state the following question: "How do you like the National Federation football rules?" The answers:

From Charles L. Cummins, Webb City High School—

"When the board of control of the Missouri State H.S. Athletic Assen. asked the coaches to vote whether to continue with the N.C.A.A. or to adopt the National Federation rules I cast my vote, like many others in our district, to retain the N.C.A.A. code. Since last year, however, I have come to the conclusion that the N.C.A.A. rules are designed for the college player and his problems, while we engaged in high school coaching know there are a great many problems arising with the high school boy that do not arise when he becomes of college age. It is in the recognition of this difference that the National Federation rules render their fine service to high school football, and I would now vote for them if the question came up again.

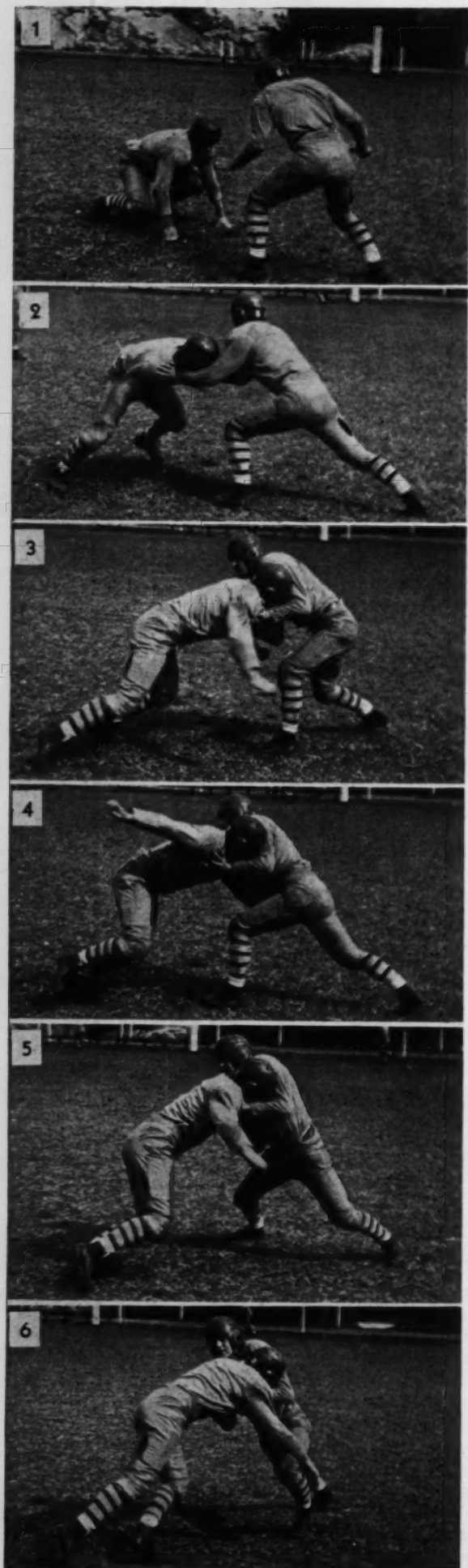
"As far as making any radical changes in the style of play this year I can't see that the new rules are doing it, other than to encourage a greater use of the six-man with two men behind the line to take care of a situation which I don't believe will be so acute as to cause a great deal of worry at present. I believe, like a lot of others after experimenting, that it is going to take quite awhile for us to develop the new up-to-the-line forward pass play so that defense cannot determine at once whether the ball-carrier is going to run or pass the ball.

Our school is close enough to Kansas that we play back and forth with each other in the early-season games. Last year in our game early in the season with a Kansas high school I was discussing with the coach what rules we would use, and he remarked that he was still throwing them from five yards back, and as it didn't make any difference anyway, we played the N.C.A.A. rules. I think this will be much the situation with most of us this year.

"In conclusion then I will say that I believe the greatest value from the National Federation rules will be from the fact itself that they were compiled by a committee composed of men interested in football from the standpoint of what is good for the high school player. Whether or not these rules differ from the N.C.A.A. rules, the fact that one set of rules is being made by high school men, who surely

### Tackle blocking a guard in who is playing outside him

Against a 7-man line the outside tackle on an unbalanced line, or against a 6-man line the tackle on a balanced line with the ends split, is called upon frequently to block in a defensive guard who is stationed outside him. The pictures to the left show the type of footwork and charge used by many teams in negotiating this block. The tackle's first step is out to the side and slightly forward with his right foot. This brings the center of gravity of the body over to the point where the weight of the forward charge can be applied efficiently, and the proper blocking angle obtained. Instantly the left leg starts its short digging step (second picture), and then the right (third picture)—both legs working like pistons well under the body (fourth picture). There is no cross-over step, with its consequent loss of balance. The initial outside step with the right foot avoids this, for it places the body in a position so that a straight-line forward charge can be made. (These pictures and those on the opposite page are by the courtesy of Columbia Univ., and were taken by Owen Reed of the Scholastic Coach staff, with a moving picture camera).



ought to understand their own problems, is enough to win my sympathy and support at this time."

From "Peg" Mahew, Sikeston High School—

"It is perhaps a little early for most Missouri coaches to state definitely whether or not they like the National Federation rules under which we are playing this year, but we can point out the advantages and disadvantages as we see them. The rule that is foremost in our minds is the forward-pass rule.

"This rule will not in my estimation eliminate any of the hazards of the game because we believe it has only served to open up the secondary, and contrary to the beliefs of many, will make for more injuries in line play. There are enough there already.

"More than ever linemen will have to 'crack in.' They will have to get to the man that gets the ball before he can get to the line of scrimmage. For once there, he may continue to run or he may pass. He may 'crack' hard at the line for several times then on his next trip stop suddenly and 'shovel' one to an end coming across, or jump into the air and wheel one in behind the line of scrimmage.

"So crashing in is all the defensive man can do. If he sits and waits, this gives the offense more time to get position on him and then put in a more effective block.

"However, we do believe that certain of the rules will help. They are the rules concerning the wearing of headgears and the rule against hurdling over any man whether prone or otherwise.

"Another feature of the National Federation rules which we like is the one requiring the referee to sound his whistle the instant the forward progress of the ball-carrier is stopped. Had the National Federation made the change made for 1935 by the N.C.A.A. and allowed the ball-carrier to pass the ball 'even though he be held by an opponent,' as the N.C.A.A. rule reads, it would have encouraged a great deal of piling on which the defense would try to excuse by saying that they had to make sure the ball-carrier did not get off a pass.

"By and large we may say that we like the new rules, and hold hopes that they will improve with age."

From H. C. Haile, Farmington High School—

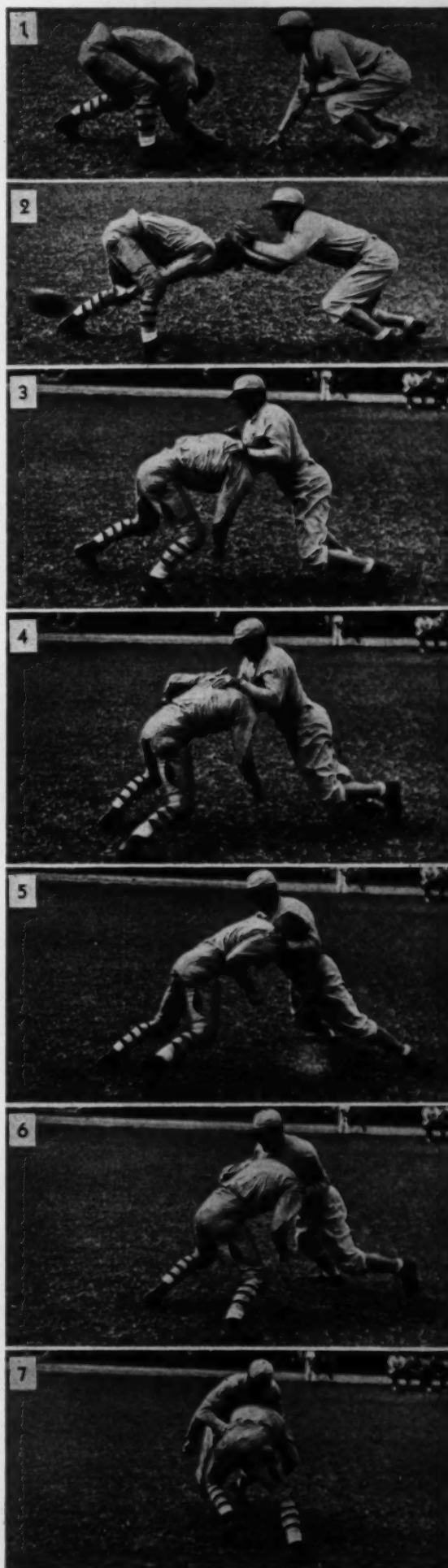
"The National Federation rules, I think, are here to stay. Most of the changes such as the 15-yard side zone, elimination of the 25-yard penalties, the rule for the protection of the passer, the ball being automatically dead when the forward progress is stopped, compulsory use of headgears, all make the game safer for the players.

"The major change in the actual playing of the game is the forward pass rule which enables the passer to pass the ball forward any place behind the line of scrimmage. The result of this rule is obvious since it will be necessary for the secondary defense to stay back until the play reaches the line of scrimmage. The defensive linemen will have to crash in as they have never done before, and hasten action of ball-carriers. This will naturally open up the game and give the secondary defense something to think about in diagnosing plays. This forward-pass threat will make a perfect set-up for spinner plays. More action should result from this rule.

Many Missouri coaches a year ago were opposed to the National Federation rules coming into this state, and no doubt there are still coaches sincerely convinced that Missouri football is not helped by these new rules. I believe that the side favoring the Federation rules has won many more adherents since the vote was taken a year ago. And, as for the spectators, the argument that they would be confused by having to watch high schools play according to a different code, the answer is that the average American spectator is perfectly capable of adjusting himself to these small variations. It is an insult to him to say that he will be confused when he sees a high school player run up to

## Center passing the ball and making his immediate charge

If a center's charge is to be at all effective it must come as an almost simultaneous movement with the snap-back of the ball. Coaches like to say "make the snap-back of the ball and the initial step one movement." It is a rare center who can make it quite this, but every center can approximate it—to what degree depending on his reflexes and his coaching. Here the center is making his charge to the utmost satisfaction of his coach, who happens to be Sam Cordovano, Columbia line coach, and the other party in the picture. In the first picture the center is taking his final look-back through his legs. With the start of the snap-back his head comes up and his rear foot comes forward to force the head into contact with opponent's solar-plexus. The legs pump and dig in short, choppy steps, well under the body—for power. The head block slips into a shoulder block on the desired side and the charge is continued right through, the defensive player being forced back and away from the play.





the line of scrimmage and forward-pass the ball. Like the defense at the moment, he may be confused from that point of view, but to say that he will wonder what kind of game is being played, is not fair to our friend in the stands. When he is watching a college game he will know that forward passes must be made from a point five yards back, and when he is watching a high school game he will know that the passer may do his stuff from any point behind the line. There is nothing confusing about that.

"So, you may say, that I am converted, and like the rules 100%."

From Fred Schwengel, Kirksville Senior High School—

"In my opinion one of the greatest problems confronting the game of football in high schools is the question of getting more and better qualified officials or, in other words, to raise the standard of officiating. It seems to me, to carry out that point, it would be better to make the rules more uniform rather than more complex, and am, therefore, in favor of accepting only minor changes in the N.C.A.A. rules to adopt to high school use, and not of the adoption of a new set of rules with different terminology that makes it more difficult for officials and players alike.

"I am entirely in sympathy with the attitude of those inter-

### Cross-charging

The advantage of cross-charging over straight-ahead charging is that it permits the charger to strike the object-man at an angle. When cross-charging is mixed in with straight-ahead charging the element of surprise is a factor in the success of the charge. The most common forms of cross-charging are between tackle and end when the end is split, or between the first and third linemen (counting from the center) when the second lineman (the middle man of the trio) pulls out to create a split. These cross-charges over splits in the line are more commonly seen because they are easiest to execute. Cross-charging in a tight line between adjacent linemen is more difficult because the cross-charging linemen are likely to jam into each other. In a loose line they are less likely to do this, and whether loose or tight, adjacent linemen, if they are first-class, can negotiate their cross-

ested in the adoption of these new rules, namely, greater safety and protection for the player, but I am unable to see that these new rules are any great asset in that respect.

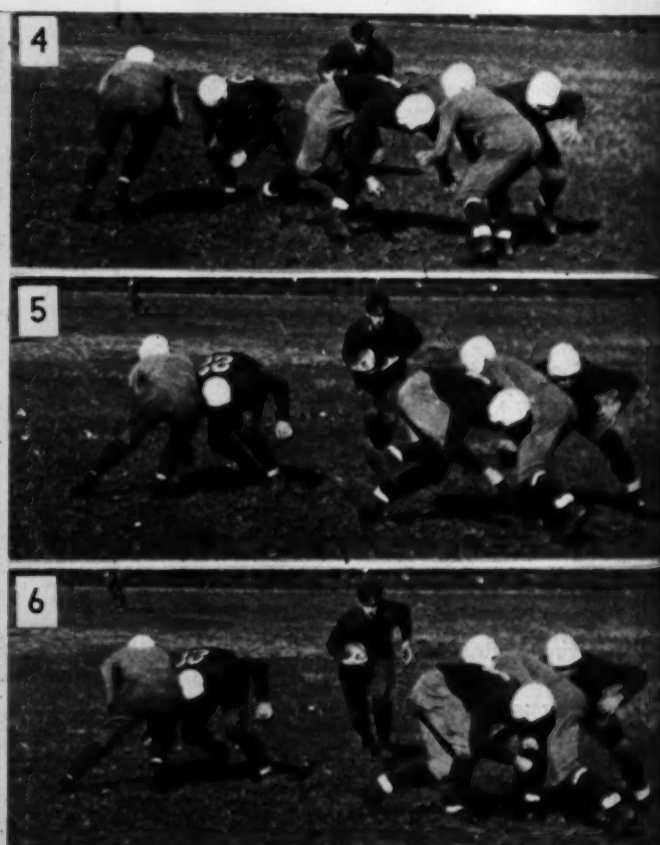
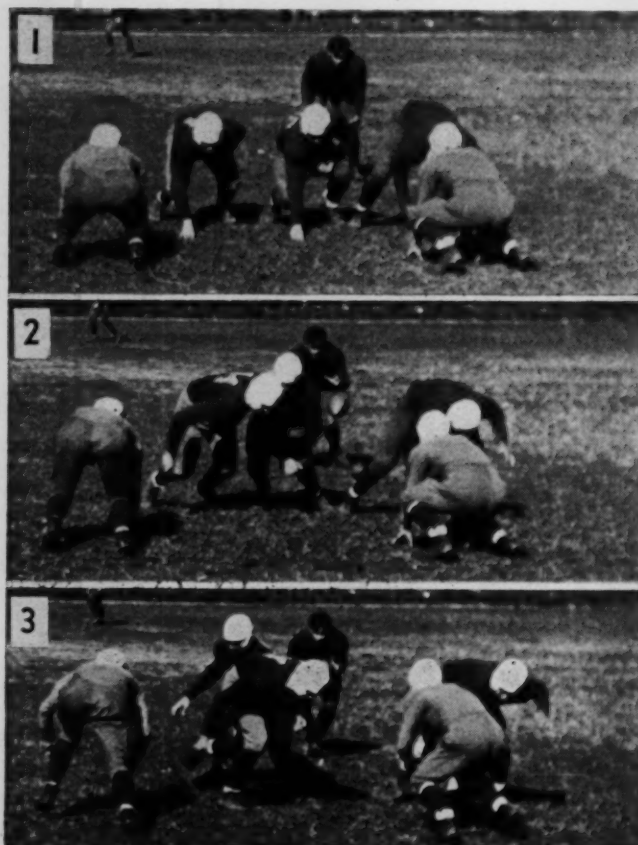
"I favor one part of the Federation rules which could be easily adopted as a high school modification of the N.C.A.A. rules, namely the new pass rule. I favor this because I feel that there is a need for stress on the offensive part of the high school game."

C. E. POTTER, St. James H.S.

### North Dakota

**A**N innovation that is adding much interest to the North Dakota high school football season this year is the play-off for the Dakota championship to be held at Aberdeen, South Dakota, on Thanksgiving Day. This game will bring together the two best teams in the Dakotas to battle it out for the trophy representing the Dakota championship. A "strategy board" has been named in this state to select the outstanding team. Members are: Dr. J. T. Dinwoodie, chairman; B. C. Tighe, principal of Fargo High School; C. C. [Continued on page 12]

charge without jamming into each other. In the pictures below a guard and tackle in a fairly loose line are pulling a cross-charge for a straight buck or for a cut-back. If the play were a cut-back, note how the guard's first movement would aid the deception and contribute to the surprise of the defensive pair. The guard pulls back as though he were going to run interference to his right. In addition to the contribution this movement makes toward keeping the key defensive men in a quandary, it serves to open just enough space to allow the tackle to cross over closely in front of the guard without jamming into him or tripping over his leg. If that guard were to wait one count in order to allow the tackle to cross over, instead of immediately pulling back with his right foot, where would the deception be, and where would that guard be? He would be right back on his tail, if the defensive guard is the man we think he is. (These pictures by Owen Reed, courtesy of Manhattan College).





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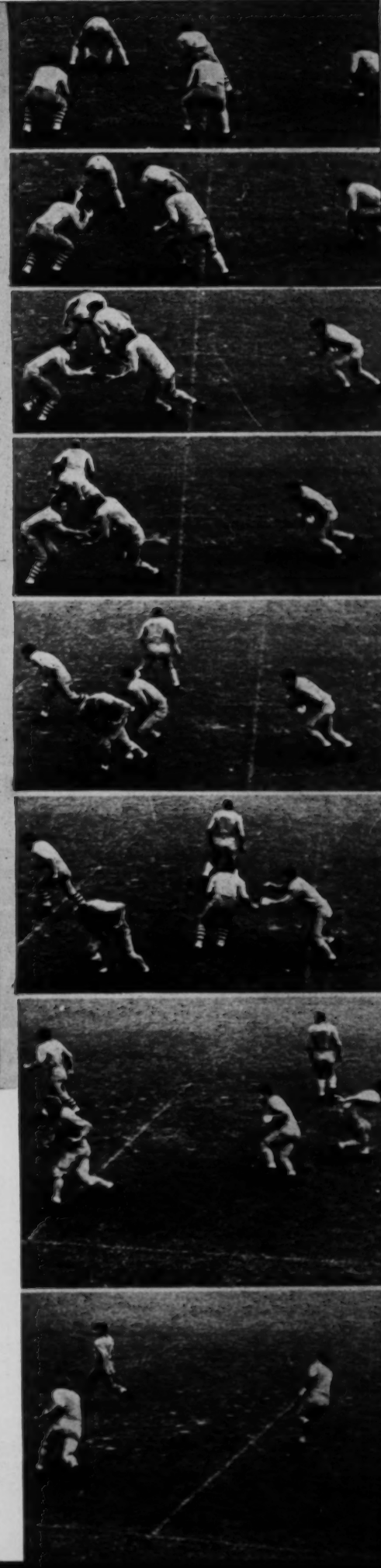
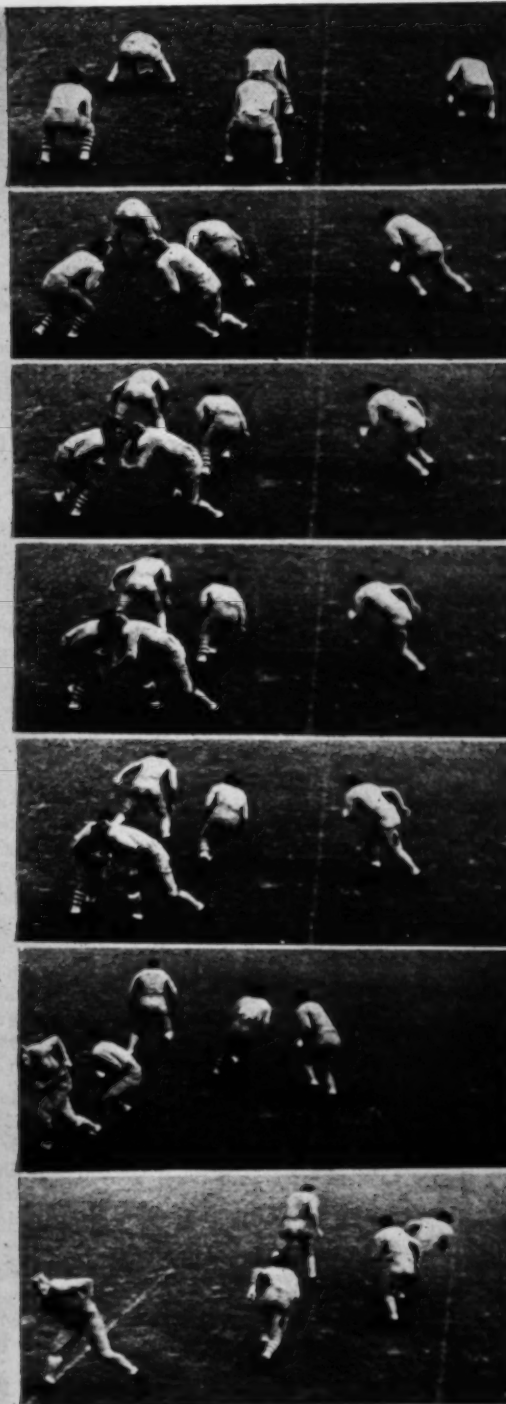
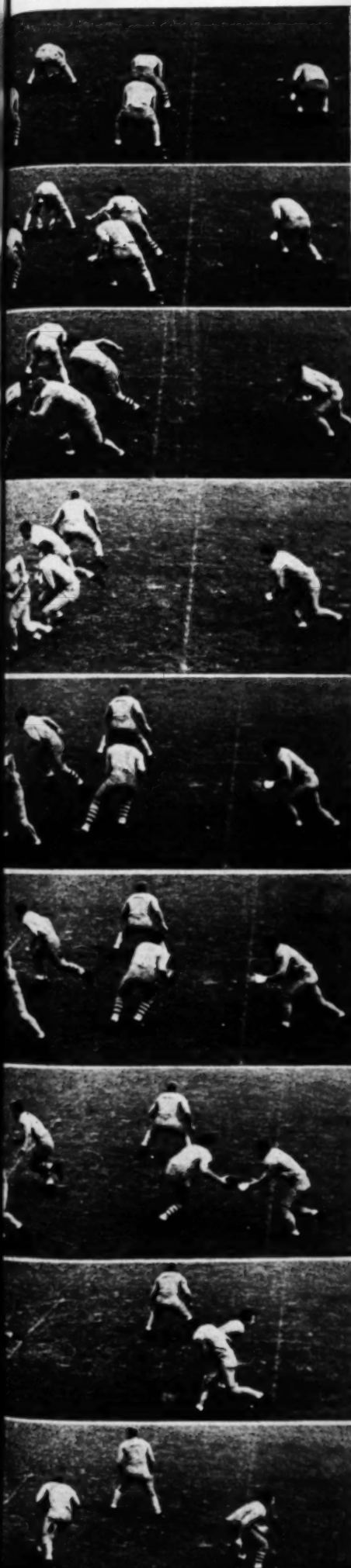
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## WINGBACK CARRIES IT

## No. 4 BACK KEEPS IT

## No. 3 BACK CARRIES IT



### VARIATIONS ON THE SPINNER THEME WEAK SIDE BUILD-UP FOR DECEPTION

**WINGBACK CARRIES IT:** The No. 4 back, receiving the ball from center, makes a full spin, during which he fakes to No. 3 back, who fakes an end run. On the completion of his spin, No. 4 back hands ball to the wingback who goes off tackle. The success of the play depends on the faking No. 3 back causing the defensive end to charge wide.

**No. 4, BACK KEEPS IT:** The spinning back full-spins, retaining the ball and going through hole between def. tackle and guard. Note that the No. 2 back's first step is a fake to the left, before he goes through to block a backer-up. If the No. 3 back succeeds in leading the weakside backer-up into a false move, the play's chance of succeeding is vastly improved.

**No. 3 BACK CARRIES IT:** Here is the end run the No. 3 back has been practicing (without the ball) in the build-up to the left. This time he has the ball, and he is doing a first-class job of concealing it from the weakside defense. The No. 4 back makes a double spin, faking to the wingback on the second spin.

## [Coaches' Associations, continued]

[Continued from page 10]

Finnegan, athletic director of North Dakota Agricultural College; James W. Coleman, coach of Minot State Teachers College; Charles Kimball, salesman; and Doug Smith, coach of Devils Lake High School.

At the present writing Coach Leo Schweinfurt's Grafton team, and Coach Glen "Red" Jarrett's Minot Magicians stand the best chance of getting the bid from this state, these two being the only undefeated and untied of the major teams. Since these two teams meet in regular schedule, the committee may have an easy job on its hands.

### Styles of play

North Dakota football styles of play are showing a trend back to the single wingback formation—or perhaps a drift away from the double wingback would be more correct. Several teams including the strong Grafton team use the Notre Dame offense. To better suit his material, Jarrett has changed from a double wing to a single this fall at Minot High. Bismarck, under a new coach, Glenn Hanna, formerly at Moorhead, Minn., is using a variety of formations, including single and double wing and punt. The use of the lateral pass has increased considerable this year. The most common use is following a short forward. A few teams employ a lateral on punt and kick-off returns. It is a noticeable fact that many players pass up opportunities to lateral when a trailer is there. This fault will probably be overcome with experience.

### Six-man football. Some at night.

Coach Jim Morrison of Valley City Teachers College has organized a six-man football league in his country. The experiment has already met with marked success and the enthusiasm shown seems to indicate that the game will become widespread in this state. Following is Jim's own account of the way the league has been organized under his direction: "There are seven teams in this league. Each team is restricted to the use of tennis shoes, headgears and shoulder pads in the way of equipment. Each home team pays the visiting team a set guarantee of five cents per mile on the round trip. Each team will play every other team in the league once—date and place of game definitely set. We find we can play twice a week and have so arranged the schedule. In order to save expenses the teams from the extreme ends of the county play in Valley City under the lights. The lights and the park and officiating are donated and the two teams split the gate. This will help to finance the league. The enthusiasm for this game has been much greater than even I anticipated. I know now of three more teams who would like to get into this set-up, but that can't be done as our league is already under way. However, as each team has one bye during the season, teams nearby that are still experimenting as to whether they want six-man football or not can play one of the league teams. The teams in the league are Wimbeldon, Dazzy, Nome, Oriska, Sanborn, Litchville, and College High School. Hannaford, Tower City and Buffalo and Eckelson are other nearby schools who will undoubtedly be in the league next year."

### Eight-semester rule

There has been considerable discussion among coaches of the state in regard to the proposed eight-semester rule. It seems likely that some action will be taken on the matter at the High School League meeting at Bismarck during the State Teachers Convention this month. The rule was proposed last spring and would have passed had there been a quorum at the spring meeting.

HARVEY L. ROBERTSON, Minot H.S.

## Texas

THE Texas High School Football Coaches' Association has already signed Francis A. Schmidt, former Texas Christian and present Ohio State football mentor, to head the 1936 coaching school sponsored by the Association.

The University of Texas Interscholastic League is making an honest effort to obtain first-hand information on the question of athletic awards through questionnaires being sent over the state by a special committee, headed by E. S. Farrington, athletic director of the Fort

Worth schools. Are we giving too valuable awards? Are our neighbors making it hard on us by giving too valuable awards? Should a limit be set? If so, what? Those are some of the questions that are running through the committeemen's minds. The chairman of the committee is not yet ready to make a report, but will have one ready by time of the League's next meeting.

There is not much being heard concerning the new 18-year rule at present. The Interscholastic League indicated in the last edition of its official publication, *The Interscholastic Leaguer*, that it is going to give the affirmative side of the question plenty of publicity. The negative side of the question, headed by the coaches, has been neglected for the time being, for the coaches are busy trying to win a few ball games.

L. C. Wood, Cameron, Secretary-Treasurer of the Texas High School football coaches' Assn., reports the association's membership at 160, with new members being added every day. Starting from scratch five years ago, the Association has now grown to the point where it exerts no little influence on Texas high school football. All Texas high school coaches are urged to send their membership fee of \$2 to Secretary Carroll Wood, Yoe H. S., Cameron, Texas.

C. J. "Shorty" Alderson, who has been connected with the University of Texas coaching staff for the past 10 years, is now connected with the Austin (Tex.) high school holding down a part time job while he continues his studies toward a doctor's degree in economics and sociology in the University. His duties include teaching a tennis class, helping with the coaching, and scouting.

STANDARD LAMBERT, Austin H.S.

## New Jersey

THE annual meeting of the New Jersey Interscholastic Athletic Assn. at the Down Town Club in Newark, Friday, Oct. 4, was one of the stormiest sessions held in the history of the association. The pre-season training rule, as was expected, furnished the fight, and for some time the fur flew thick and fast. There seems to be an undercurrent of sentiment against the rule by coaches in some sections of the state, particularly where pressure has been brought to bear for the production of winners. The Coaches Association, sponsor of this ruling, does not include in its ranks all the coaches of the state. The majority of its members however, have gone on record favoring curtailment of out-of-season training.

The officers of the New Jersey Interscholastic Athletic Association elected for the year 1935-36, were Clarence E. Woodman, Montclair, president; G. Hobart Brown, Roselle Park, vice-president; Walter E. Short, secretary; and George Henckel, East Orange, treasurer. The executive committee includes Arthur Humphreys of Jersey City, Dr. A. G. Ireland of Trenton, New Jersey, M. J. Fish of Seton Hall, LeRoy E. Haskins of Blairstown, Oscar Thomson of Hackensack and Melvin Rahn of Long Branch.

Herbert A. Stine, director of athletics and football and basketball coach at the Plainfield H. S. for 16 years, is the new president of the New Jersey Scholastic Coaches' Assn. Stine succeeded Charles J. Schneider at the second annual meeting of the association held at the Rutgers Univ. gymnasium, Sept. 20. Howard Bollerman of Bound Brook succeeded William Foley of Bloomfield to the vice-presidency, and James MacIntyre of Morristown was reelected to the office of secretary-treasurer. The new executive committee will include LeRoy Smith of Trenton, Carl Smith of Millburn, Theodore Cooper of Linden, Philip Marvel of South Orange, William L. Foley of Bloomfield, and Charles J. Schneider.

George E. Little, Director of Athletics at Rutgers University, the man who was responsible for the birth of the New Jersey Coaches' Association, extended an invitation to member coaches and their respective squads to attend the Rutgers-Westchester Teachers game. About a dozen high schools availed themselves of this invitation to see Rutgers go down to defeat before a very snappy and unusually strong Teachers eleven.

Frank Smith, last fall coach of the Manhattan College freshman team, is in charge of Belleville H. S. football this fall. Smith replaces Dave Buchanan who moved to Scarsdale, N. Y.

"Red" Twitchell, last year center of the Rutgers team, stepped into the coaching job at North Plainfield H. S. this fall, relieving Howard Krausche, who will continue as director of physical education.

[Continued on page 35]



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## Tackle being taken out

In this strip of pictures from a moving-picture film, the wingback and end are commissioned to block the defensive left end to the outside so that the play can run inside him. Both blockers are employing the head-block-slip-into-shoulder type of block, aiming their head charge directly at the defensive man's middle. If he puts his hands up to ward off the head charge, the charge is supposed to be strong enough to go right through the hands. The head is not to be ducked, the neck is to be kept rigid, the eyes on the target, the feet digging in short steps well under the body, and the charge to be as forceful as it can possibly be made. The end naturally contacts him first, because he is closer to him. The end should aim to strike a little higher than will the wingback, for the end is the one who must do the turning. He quickly slips into a shoulder block, and should be in it by the time the wingback strikes (fifth picture from the top). The job of turning him then begins, the wingback serving as the post and the end providing the transportation.

B

## Tackle being taken in

Here the play is to go off tackle, and the commission this time is to block the tackle in. He is in a better position to be taken in than out, and so our wingback and end should do a better job of it. They did well enough in the A series, but they are doing better here (or does it just seem that way because of the lovely rear view we get of the tackle as he is being backed into the camera?). It is the end's task here to get the low position, but he must be careful not to attempt to get it on his first contact with his head, lest he go too low and be ineffective. Since the end is the one who reaches the tackle first, his initial blow must be a shock to that tackle, and aimed as usual at his middle. Then as the end slips into the block on his right shoulder and the wingback has made his strike, the end slides down. In the fifth picture from the top the wingback is doing such a good job that the end is practically off his block for the instant. In the next picture, however (there are a few film frames missing between all these pictures, of course) the end is with his man solidly. And in he goes.





# SURVEY OF ARIZONA HIGH SCHOOL COACHES

By Mark MacIntosh

Mr. MacIntosh is director of physical education and head coach of the Arizona State Teachers College at Flagstaff. This is the second of two articles for Scholastic Coach on his study of Arizona high school coaches. The first article appeared in the October issue.

SIXTEEN different subjects are taught by Arizona high school coaches, the most common being physical education; 50 men, or 77 per cent, teach this subject an average of 12.4 hours per week with a range among the individuals of between two and 40 hours per week (Table V). If a young man was majoring in physical education in college and wanted to know what supplementary subjects he might have to teach to get a position in a high school, it could reasonably be said that the subjects would occur in this order: history, science, commercial

mathematics, commercial subjects, English, and history appear again in Table VI with the highest frequencies.

Basketball is the most common sport which Arizona high school physical education teachers are called upon to coach in interscholastic competition, with over 92 per cent of the respondents engaged in coaching it (Table VII). It is the most popular intramural sport also, as shown by the fact that 30 men checked it as one of their supervisory duties, while the next intramural sport in importance is track, which was checked by 15 men, just half as many as those checking basketball. In the second part of Table VIII, showing sports which the men have coached at some time during their careers, basketball again leads all other sports, this time 63 of the total of 65 respondents (97 per cent) having checked it. It is clearly appar-

ent from the above facts that a young man seeking a high school coaching job in Arizona should be prepared to coach basketball. From a study of both Tables VII and VIII it is seen that track and football are about equal and are next in importance to basketball from the standpoint of being mentioned by the largest number of coaches. Baseball, completing the quartet of the so-called major sports, must also be considered important because it was checked by slightly less than 70 per cent of the men who have coached it some time during their careers.

The relative importance of the different phases of the

physical education activity program is shown in the first part of Table VIII with Calisthenics, Marching, Tumbling, Correctives, Games of low organization, Gymnastic stunts, and Apparatus work shown in that order of frequency but so well grouped that all appear quite essential.

*Education and Professional Training.* The Arizona high school coaches in this study hold a total of 45 A.B. degrees, 18 B.S. degrees, one Bachelor of Ex-

TABLE VI  
SUBJECTS WHICH ARIZONA H. S. COACHES HAVE TAUGHT AT SOME TIME DURING THEIR CAREERS

Subjects	No. of Men who have Taught Subject	Per Cent
1. Hygiene.....	36	55.3
2. Science.....	31	47.6
3. Mathematics.....	25	38.4
4. Commercial.....	21	32.3
5. English.....	18	27.7
6. History.....	10	15.4
7. Languages.....	8	12.3
8. Economics.....	7	10.8
Industrial Arts.....	7	10.8
Others (not specified).....	7	10.8
11. Civics.....	4	6.2
Social Science.....	4	6.2
13. Art.....	2	3.1
Geography.....	2	3.1
Agriculture.....	2	3.1
Speech.....	2	3.1
17. Farm Mechanics.....	1	1.5
Dramatics.....	1	1.5
Reading.....	1	1.5

TABLE V  
ANALYSIS OF TEACHING DUTIES OF ARIZONA H. S. COACHES

Subject	No. of Men Teaching Subject	Per Cent	Average No. of Hours Per Week	Range in Hours Per Week
1. Physical Education Activities.....	50	77.0	12.4	2-40
2. History.....	20	30.8	8.3	4-19
3. Science.....	19	29.2	12.7	4-40
4. Commercial.....	13	20.0	9.3	5-25
5. Hygiene.....	13	20.0	3.9	1-10
6. Mathematics.....	12	18.5	6.8	2-15
7. Industrial Arts.....	10	15.4	12.3	2-28
8. English.....	8	12.3	11.5	5-25
9. Others (not specified).....	6	9.2	5.7	3-12
10. Study Hall.....	5	7.7	7.4	2-10
11. Civics.....	4	6.1	5.2	2-8
12. Social Science.....	3	4.6	12.3	5-20
13. Agriculture.....	3	4.6	7.5	5-10
14. Economics.....	2	3.1	15.0	5-15
15. Speech.....	1	1.5	10.0	
16. Grammar School.....	1	1.5	7.5	
17. Law.....	1	1.5	5.0	

subjects, hygiene, mathematics, industrial arts, and English. These subjects in the order named could then be recommended as minors in combination with a physical education major.

In Table VI, showing the subjects besides physical education which the coaches have had to teach sometime during their careers, we have a good check on supplementary subjects to physical education in high school coaching positions. Of the seven subjects listed in Table V as important because of their frequency in the present teaching duties of the correspondents, six of them, i.e., hygiene, science,

pression, four M.A. degrees, and three M.S. degrees. Thirty-three of the men received their degrees in Arizona colleges, while 24 received theirs outside of the state.

In a study of the subjects of specialization of the high school coaches in undergraduate and graduate work Physical Education, as would be expected, leads all others, with over 52 per cent of the coaches naming it as their undergraduate major and over 27 per cent naming it as their specialization in graduate work (Table IX). While Education was named as an undergraduate major by but half as

TABLE VII  
ANALYSIS OF INTERSCHOLASTIC AND INTRAMURAL COACHING AND SUPERVISORY DUTIES OF ARIZONA H. S. COACHES

Sport	No. of Men Handling Sport	Per Cent	Average No. of Hours Per Week	Range in Hours Per Week
<i>Interscholastic (Coaching)</i>				
1. Basketball.....	60	92.5	11.2	3-35
2. Football.....	44	67.7	13.2	3-30
3. Track.....	33	50.8	8.3	2-20
4. Baseball.....	24	37.0	9.6	4-35
5. Tennis.....	11	16.9	6.4	2-15
6. Others (not specified).....	7	10.8	8.3	2-12
7. Spring Football.....	5	7.7	9.0	2-12
8. Swimming.....	2	3.1	7.0	4-10
<i>Intramural (Supervising)</i>				
1. Basketball.....	30	46.2	4.2	1-15
2. Track.....	15	23.1	4.4	1-10
3. Softball.....	12	18.5	4.7	1-10
4. Tennis.....	9	13.8	3.2	1-6
5. Others (not specified).....	6	9.2	6.0	1-20
6. Volleyball.....	4	6.1	3.5	2-6
7. Touch Football.....	3	4.6	3.0	2-4
8. Football.....	2	3.1	9.0	8-10

TABLE VIII  
PHYSICAL EDUCATION ACTIVITIES  
AND SPORTS WHICH ARIZONA H. S.  
COACHES HAVE HAD TO TEACH AT  
SOME TIME DURING THEIR  
PROFESSIONAL CAREERS

	No. of Men who have Taught Activity	Per Cent
<i>Physical Education</i>		
1. Calisthenics.....	44	67.7
2. Marching.....	37	57.0
3. Tumbling.....	28	43.0
4. Correctives.....	25	38.4
5. Games of Low Organization.....	22	33.8
6. Gymnastic Stunts.....	18	27.7
7. Apparatus.....	17	26.2
8. Dancing.....	2	3.1
<i>Sports</i>		
1. Basketball.....	63	97.0
2. Track.....	57	87.7
3. Football.....	50	77.0
4. Baseball.....	45	69.2
5. Volleyball.....	36	55.4
6. Tennis.....	33	50.8
7. Golf.....	27	41.5
8. Boxing.....	21	32.3
9. Swimming.....	20	30.8
10. Wrestling.....	17	26.2
11. Speedball.....	2	3.1

many men as named Physical Education, it ranks on an equal basis with the latter as a graduate subject. Both these subjects outrank all others by far in frequency of being mentioned by the coaches as graduate majors. In all, 16 different subjects were mentioned as undergraduate majors, and 13 different subjects were mentioned as graduate majors.

Table X shows the number and percent of respondents who participated in athletic and non-athletic activities as undergraduates. Participation in athletic activities can certainly be counted professional training for coaching jobs, hence this part of a college program is vocationally very important. Eighty per cent of the coaches were members of football squads while in college, 77 per cent were on basketball squads, 50 per cent on track squads, 40 per cent on baseball squads, and tennis, swimming, wrestling, boxing, and golf had 20 per cent or less of the coaches as participants. Nine different non-athletic activities claimed the respondents as participants, with 43 per cent checking "class officer" as the leading non-athletic activity.

**Recommendations.** The four major sports, basketball, football, track, and baseball are considered by coaches in service the most important sports to play in college as professional preparation for the high school coaching field, according to the data shown in Table XI. Gymnastics were considered the most important of the physical education activities, altho tumbling was considered almost equal in importance. Swimming, tennis, boxing,

wrestling, golf, and dancing are shown in that order of importance by the data, while three activities which are generally considered non-physical education—debate, dramatics, and music—were mentioned as of some importance by a fair percentage of the coaches.

Twenty-seven courses are variously recommended (see Table XII) by coaches in service for professional education in their field. First Aid, which heads the list of the 27 courses checked by the coaches, was situated in the 24th position on the check list so it is evident that independence of thought was used by the respondents and the courses were not checked carelessly or in the order in which they appeared on the check list. Data such as appears in Table XII should be of value in curriculum construction at teacher-training institutions. While the choice of courses of the respondents in this study may be somewhat colored by their individual training and background, it is more reasonable to believe that they checked the courses which, from their experience in the field, they have at some time felt the need of.

**Recreational and Civic Interests.** Twenty-six recreational activities make up the list submitted by the respondents. In the order of frequency in which they appeared, the recreational activities are: reading, attend-

TABLE X  
PARTICIPATION OF ARIZONA H. S.  
COACHES IN ATHLETIC AND NON-  
ATHLETIC ACTIVITIES WHILE IN  
COLLEGE

Activity	No. of Men in Activity	Per Cent
<i>Athletic (on Squad)</i>		
1. Football.....	52	80.0
2. Basketball.....	50	77.0
3. Track.....	33	50.8
4. Baseball.....	26	40.0
5. Tennis.....	13	20.0
6. Swimming.....	9	13.9
Wrestling.....	9	13.9
8. Boxing.....	8	12.3
9. Golf.....	5	7.7
10. Others.....	4	6.2
<i>Non-Athletic</i>		
1. Class Officer.....	28	43.0
2. Dramatics.....	22	33.8
3. Glee Club.....	15	23.1
Athletic Board.....	15	23.1
Student Council.....	15	23.1
6. Debate.....	11	16.9
7. School Paper.....	9	13.9
School Annual.....	9	13.9
9. Athletic Manager.....	5	7.7
10. Others.....	7	10.8

TABLE IX  
SUBJECTS IN WHICH ARIZONA H. S. COACHES  
SPECIALIZED IN UNDERGRADUATE AND  
GRADUATE STUDY

Subject of Specialization	No. of Men Under- grad- uate Study	Per Cent	No. of Men Grad- uate Study	Per Cent
Physical Education.....	34	52.3	18	27.7
Science.....	21	32.3	3	4.6
Education.....	17	26.2	18	27.7
History.....	15	23.0	1	1.5
Economics.....	13	20.0	2	3.1
Mathematics.....	11	16.9	1	1.5
Business Education.....	7	10.8	1	1.5
Agriculture.....	5	7.7	1	1.5
Others (not specified)....	5	7.7	0	
Industrial Arts.....	4	6.1	2	3.1
Language.....	3	4.6	0	
English.....	2	3.1	0	
Psychology.....	2	3.1	0	
Political Science.....	2	3.1	1	1.5
Geology.....	1	1.5	0	
Military Science.....	1	1.5	0	
Accounting.....	1	1.5	0	
Agronomy.....	0		1	1.5
Medicine.....	0		1	1.5
Speech.....	0		1	1.5

ing theatre, basketball, hunting, swimming, motoring, playing cards, fishing, golf, tennis, hiking, softball, horseback, attending lectures, handball, table tennis, bowling, musical instruments, skating, skiing, horse races, outdoor life, prespecting, archeology, marksmanship, baseball.

It is interesting to note the many "active" activities such as basketball, hunting, swimming, golf, tennis, hiking, softball, horseback, and others which these men engage in. One is curious to know whether the general high school men teachers, or any other group of men of similar ages as those concerned in this study, would show as great a participation in active pastimes.

Relatively few of the respondents in this study belong to fraternal lodges or civic organizations (Table XIII). The Masonic order is the most popular fraternal organization and the chamber of commerce leads civic organizations in membership among the high school coaches. There can be but two reasons for the paucity of membership in civic organizations: first, many of the communities in which the respondents live do not have civic organizations; and second, lack of interest. In defense of the first reason we find that 50 per cent of the high schools employing these coaches have enrollments of 65 or less boys (median male enrollment in Table I, appeared in Oct. issue). Small high schools are in small communities; it is entirely possible that many of the communities with high schools that have male enrollments of 65 or less do not have the usual civic organizations. In re- [Concluded on page 38]



# New Books on the Sportshelf

## Complete manual on football

**MANUAL FOR FUNCTIONAL FOOTBALL.** By John DaGrosa. Pp. 436. Illustrated—diagrams. Philadelphia: American Football Institute. \$5.

**W**HAT do you think of the new football book that came in the mail this morning?"

we asked our secretary as we lifted the tome the postman had brought, and, with some difficulty, held it aloft.

"Oh, is that what it is," she said. "I thought it was a Sears Roebuck catalogue."

The young woman may be pardoned. Any other football expert would have made the same mistake, for it is a strange sight indeed to see a football book that weighs more than a Manhattan telephone directory, is two inches thick, and has more than 400 pages each 8x11 inches. But John DaGrosa needed all this space for the job he wanted to do. It is without doubt the most complete transcription of the game to printed pages that has ever been accomplished.

This manual is organized into five books: Book I, Offensive Fundamentals; Book II, Defensive Fundamentals; Book III, The Offense; Book IV, The Defense; Book V, Coaching. Much of the material is presented in the form of answers to questions. Some of these will seem so elementary as to be valueless to the experienced coach. But it is clear that these elementary questions and answers are included to give each division of the work completeness. The football expert can conveniently skip these simple parts, and he will soon find himself in territory more to his liking.

The author is no mere theorist. In an introduction to his article, "Huddle and Signals for the Defense," in the November, 1934, *Scholastic Coach*, he was described as one who "has come right up from the front line itself. In fact, he has come up from all over it: he played at center, guard, tackle and end on the Harlow-coached Colgate teams of 1922, '23, '24, and '25; was all-American on the '25 undefeated team. He was line coach for Lou Little at Georgetown from 1926 through 1930. Then he went to Temple University, where he was line coach and instructor in law. He got his law degree from Georgetown."

DaGrosa's thorough training in the playing and coaching of the game is reflected in the detailed analyses and descriptions he gives of football's most difficult problems—suiting the blocking to the type of play being attempted and to the defense against it; timing the movements of the backfield and the linemen used as interferers; imparting the necessary knowledge and "guides to action" to every player on defense so that he will play each situation in the most efficient manner. No vague generalizing will satisfy the football coach

in search of solutions to his own problems. He wants the practical specifics. If he can get them anywhere between the covers of a book it is in this weighty volume.

The reader will get a better idea of how DaGrosa approaches these problems from the following question and answer to question No. 12 under the division on line interference in Book I, *Offensive Fundamentals*:

1. Name four types of end play the line interferer should be prepared to meet.

### Taking the Ends

A lineman who is to take an end should realize that he will meet an end using any one of four different charges, that the offense has no control over the defensive charges, and that therefore he must prepare himself to meet any one of such charges without undue loss of time.

The following are four ways an end will charge and an explanation of how the interferer should meet him:

A. *Crashing Ends*: Playing either high or low, close or wide, they should be taken as follows:

a. *Crashing ends, close to line of scrimmage, in a low position, should be taken in, and never out, since it is impossible to take them out, whether with the aid of a back or otherwise.*

**EXECUTION:** Lineman should contact end with a low shoulder block (inside shoulder), driving end in. If he plays too low for shoulder blocking, he should be smothered in by use of knees or a pivot block (sometimes termed a "side-swipe" by coaches), the latter executed by pivoting (when almost flanking the low crashing end) and crashing the man with shoulder or entire body, from the side (this contact is unexpected by the end).

b. *Crashing ends, close to line of scrimmage, in a high position, should also be taken in.*

**EXECUTION:** Lineman should contact end with head and shoulder block, remaining on feet and driving end in. He may also use the reverse shoulder block, pivot block, and a high cross-body block. (He should be alert to use a head duck, for this type of end will use his hands.)

c. *Crashing ends, wide, in a low position (down on knees—dives—very low) should be taken in or out. If two men are on the end they may be taken in or out, but if a lineman takes an end alone, choice is impossible, and the end should be taken out.*

**EXECUTION.** Lineman should contact end with a straight shoulder block, keep his feet:

if too low, he should use his knees and smother the end out of the play, or use a pivot block to drive him out from the side, with either a shoulder or cross-body block after the pivot.

d. *Crashing ends, wide, in a high position, should be taken in or out, depending on their angle to the linemen running interference.*

**EXECUTION:** Lineman should contact end with head and shoulder block, remaining on feet and driving end out (ready at all times to change this shoulder block into a cross-body block). Or he may use a pivot block, making contact with shoulder or body. Situation may also call for a reverse body or a shoulder block.

(Note: Shoulder blocks, straight or from a pivot, are used by the better teams.)

B. *Ends Taking One or Two Steps:* Following this with crashing in a high or low position the ends should be taken as follows:

a. *Ends with steps and low crash, should be taken in or out because they are in position to be taken either way, the steps creating such position.*

**EXECUTION:** Lineman should contact end with shoulder or pivot block, remaining on feet. He may also use the reverse shoulder block, this usually working well. If the end plays too low, knees should be used for smothering him in or out.

b. *Ends with steps and high crash, should be taken in, back or out, because they have left themselves open for almost any kind of contact.*

**EXECUTION:** Lineman should contact end with running head and shoulder block or pivot and reverse shoulder, remaining on feet, or, if needed, use a cross-body. (Head duck should be resorted to for getting at him, in case he wards off man with his hands.)

(Note: The type block to be used depends upon the situation, ability of the end and lineman, and the position of the end.

Linemen should remember the side to contact end with, in order always to have body between opponent (end) and the ball carrier. Incorrect contact and position of linemen have been the causes of many plays failing to gain needed ground.)



### C. Hand Fighting and Retreating Ends: Should be taken in, back or out.

EXECUTION: Lineman should contact the end high (using head duck), above the waist-line, with head and shoulder block, reverse body or shoulder block, high cross-body block, and a running roll block. (Man should not leave feet unless for a roll block, or as a last resort, in case of missing the cross-body block, the Indian block should be used.)

D. *Standing Ends*: Sometimes ends are found who will stand at the line of scrimmage and wait for the play to develop. For general execution: If such happens, keep feet, stay low, and hit for their mid-section with head and shoulders, keeping drive without hesitation. If the end steps out or in as he is approached, he should be taken out or in, this giving the ball carrier time and space to reverse his field regardless of assignment.

(Note: The above four types of charging defensive men are taken up in the section on charging for offensive linemen, and how they should be taken. Ends are taken the same as guards, according to their defensive charge, the latter as explained in the section on charging.)

Many coaches no doubt will have a quarrel to pick with DaGrosa over some of his preferences of methods. No teacher of football can avoid such criticism, and it is these differences of opinions which makes for variations in football systems. In *Manual for Functional Football* DaGrosa is not championing any particular system. That is not his purpose. His purpose is to show how all systems are developed, and he does it by indicating how they all derive from certain fundamental principles. The *Manual* carries you from the principles through the systems. It is sound football transferred to type and diagrams. In this respect, and for its comprehensiveness, it stands as a notable work. After examining it one is tempted to ask himself "How can any man know so much football?" DaGrosa, if this book is evidence, leaves no doubt that he knows it, and, what is infinitely more important to the reader, knows how to organize it for teaching and reading purposes. Our hat is off to the author, and we go the limit in urging football coaches, the green and the experienced, to examine his masterpiece.

At one or two points we were displeased to see DaGrosa miscueing. In Book V, in his extensive comment on the development of the game and its government, and in his reference to the high schools, he makes no mention whatsoever of the state high school athletic associations, their National Federation and the set of rules they have developed and which are the official high school rules in thirteen states, and used in part in several other states. Of course, this negligence has its effect in the tech-

[Turn to page 20]

### 5. Explain why cross-charging is more effective than charging forward.

When a player charges forward to meet an opponent, his direct force is met, and to accomplish the objective the offensive player must have superior force or more effective technique, whereas in cross-charging the opponent is contacted from the side (by surprise), and driving him to that side to accomplish the objective with less power. (Note: The principle is the same as exists if, when walking, a person were unexpectedly struck from the side - the result would be greater than if the person struck directly in his path.)

### 6. In contacting an opponent in cross-charging, where should player's head be - in front of, or behind opponent?

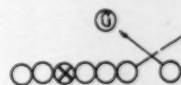
Player's head should be behind opponent, away from the path of his drive to eliminate injury and turning of contacting player's body.

### 7. Which type of play works well with cross-charging - quick smashing, or delayed?

Delayed plays work best, because proper timing of the backs with the cross-charging of the linemen must be obtained.

### 8. Distinguish cross-charging from side-swiping.

Cross-charging is done from a split line, while side-swiping is executed from a tight line.



(Cross-charging)  
Fig. 24



(Side-swiping)  
Fig. 25

(The difference is at inception, from a tight and split line.)

### 9. Against what type of line charge will cross-charging work most effectively?

High charging linemen.

### 10. Diagram three different types of cross-charge plays.

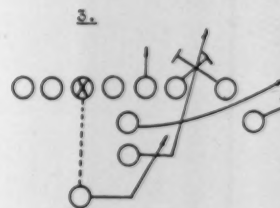
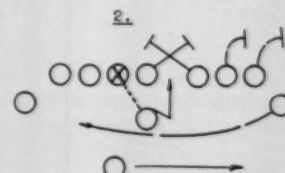
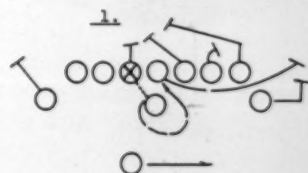


Fig. 26

Note: Blackboard illustrations should be employed in showing cross-charging.

### 5. MOUSE-TRAPPING

#### 1. Define and explain mouse-trapping.

An invitation by the offensive line to a defensive player to charge through a hole or opening into the backfield territory, and then to charge him from the side by surprise and run a play over the territory or opening which the defensive player came through, is called "mouse-trapping."

The hole or opening created by the offensive linemen is known as the trap, and the player contacting defensive player (known as the mouse) in the trap is the keyman and closes the trap to make the play a successful one.

Reduced from John DaGrosa's book "Manual for Functional Football"



# Only GENUINE "Irish Standard" Handball

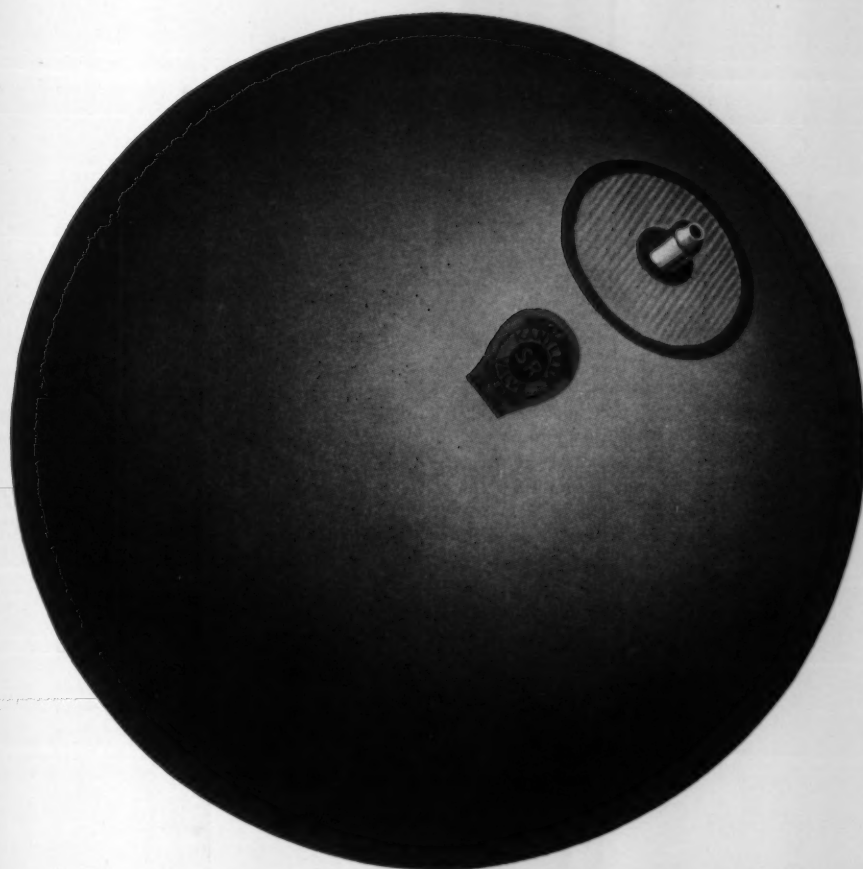


**T**HERE is only one real handball . . . preferred wherever handball is played "official" . . . the "Irish Standard," a totally different handball.

Its speed and precise rebound have made handball a faster, more interesting game. The "kill" can be perfectly executed. So superior that it makes a game with the older type of ball something else beside handball.

Only Seamless Rubber Company makes this genuine "Irish Standard" Handball. It's the sort of handball you'd naturally expect from the makers of Seamless Kantleek Bladders. Stock it and sell more handballs.

*Seamless "IRISH STANDARD" Handballs*



**Basket Balls have no Dead Spot**  
*no untrue rebounds—no “heavy bounce” when they have*

**KANTLEEK** BASKET BALL  
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*because the bladder is the same shape as the ball*



THE SEAMLESS RUBBER COMPANY  
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THERE'S only one real question you need ask about the new laceless basket balls . . . are they equipped with Seamless Kantleek Bladders and Kantleek Rubber Valves? The laceless feature is a perfect companion to the seamless, rubber-valve features of Kantleek Bladders . . . uniform walls; lively, true bounce; accurate travel. The most conscientious makers of laceless basket balls have chosen Kantleek Bladders because they are made the shape of the ball before inflating—not shaped roughly by the casing after inflation. Insist on Kantleek Bladders in your laceless basket balls.

*Seamless “KANTLEEK” Bladders*



## New Books, continued

nical discussions of the forward pass which make no allowance for the forward-pass that may be made from any point behind the line of scrimmage, according to the Official Interscholastic Rules of the National Federation.

On a minor key is our objection to the inscription which serves as the dedication of the book. It struck us peculiar coming from a man of DaGrosa's education. The inscription:

Dedicated to

The High School Coach who changes "raw material" into the "College Hero" of tomorrow.

This is a pretty false conception of the part high school coaches are playing in the training of young men. The high school coach deserves a dedication, but he deserves one pitched on a loftier plan than this. Or did DaGrosa write this with his tongue in his cheek? He must surely know that of all the boys trained by high school coaches only a small percentage ever play on college teams and that therefore he renders his greatest service in what he does for those who will no longer have the advantages of further training under a football coach.

JACK LIPPETT

### Booklet on the 6-man game

**SIX-MAN FOOTBALL.** By Stephen E. Epler. Pp. 64. Illustrated—diagrams. Lincoln, Nebraska: The University Publishing Co. 50 cents.

IF Stephen Epler isn't the father of 6-man football he is certainly its guardian. As such he is promoting the short-handed game with all the power his type-writer can command, and now on top of a number of articles he has written for various publications (including our own humble sheet), he comes forth with this book. It sums up all his periodical writings, giving the purpose of 6-man football, the rules, general playing suggestions, formations for the offense (with plays) and the defense, and some comment on playing fields and the cost of equipment. The foreword is by O. L. Webb, secretary of the Nebraska High School A. A., who gives an account of how the author got off on this tangent.

### Fun for Everybody, Anytime, Anywhere

**SOCIAL GAMES FOR RECREATION.** By Bernard S. Mason and Elmer D. Mitchell. Pp. 420, illustrated. New York: A. S. Barnes & Co. \$2.50.

THAT resourceful Ann Arbor partnership of Mason & Mitchell, producers of the notable *The Theory of Play* a year or so ago, and more recently *Active Games and Contests*, have now turned out a volume concerned only with the practice of play in its lighter forms. Games to make you lose your self-consciousness, but not your consciousness. Here are 1,200 games for all and sundry occasions, from home to range, parlor gas logs to the campfire. What will you have?

## Blocking Technique—Continued

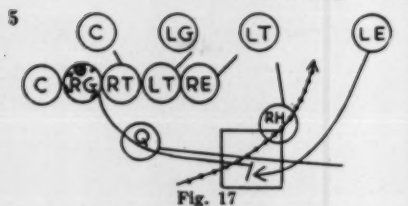


Fig. 17  
Double Wing-Back Formation. Reverse off—T to right vs. seven-man line.

RG goes out of line to block defensive LE if offensive Q cannot handle him alone. It should be an aggressive block. If Q fails to get contact and block on end, RG follows up with a right shoulder and forearm block. Same as in 3A, only it is a right instead of a left shoulder and forearm block. Technique of block is the same. If Q gets a fairly good "shot" at his man, but the latter is still dangerous and in a position to tackle the runner, the RG can throw himself sideways at the end, head to either side, and hit him with his hip. This is a high block, sometimes right over the offensive Q, who may be down on the ground.

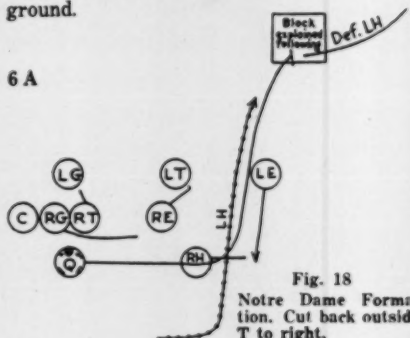


Fig. 18  
Notre Dame Formation. Cut back outside T to right.

Here the offensive Q goes down to block the defensive LH. He assumes that the rest of the play has gone through successfully—LE having been blocked out, and LT and F having been blocked in. A man is sent down for the safety. RH and C are headed off. The ball carrier has passed the line of scrimmage, and is following behind, probably slightly inside the offensive Q. Q may block the defensive LH in several ways, depending on how latter comes in to stop ball carrier. Following examples are shown as a fairly complete exposition of the "open field block"—the block on a secondary defense man well beyond the line of scrimmage, or on an end down on a punt, a kick off, or on intercepted pass.

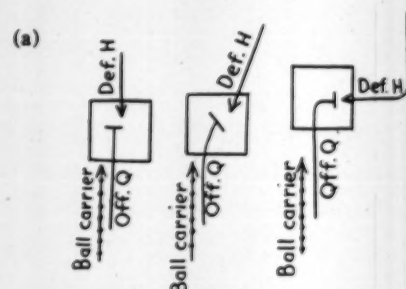


Fig. 19

When the Q meets the defensive LH, something in the nature of "head on" block may happen as shown in these three cases. (a) In each of these cases, the blocker can use a straight shoulder and forearm block, described in 3. Here, however, block should be a little higher up on opponent. Blocker gets head to the side of the defensive half to which he thinks ball carrier will go.

Or the blocker can use a side and hip

## Reduced page from "Ditto Practice Lessons in Football" by Maury Kent

A social mixer? Something for the classroom? Picnic-ground? Club-room? They are all here. Some of the games are original with the authors, but most of them are versions of games handed down through a line beyond tracing. "Games are seldom originated—they grow. Each generation adds its variations to the old, and gradually play ways appear that seem to be new," the authors remark in their preface.

### Football in Ditto ink

**DITTO PRACTICE LESSONS IN FOOTBALL.** By Maury A. Kent. Pp. 116. Illustrated—diagrams. Chicago: Ditto, Incorporated. \$2.50.

THIS book is a number of things in one, each very well done, making the whole a useful, authoritative manual on offensive football. It offers in the form of diagrams and terse comment a complete repertory of plays from each of the widely used formations (Notre Dame, single and double wingback from unbalanced lines, and short punt); drawings, diagrams and descriptions of the technique of blocking under all circumstances; a selection of plays by famous coaches (Bierman, Crisler, Little, Shaughnessy, Spears, Thomas, Warner and Zuppke—all arranged in large, well-spaced type and dia-

grams for quick reference, and (here is the crowning achievement) printed in an ink which permits you to reprint hundreds of copies from each page. The pages are easily removed, but once this is done they cannot be placed back in the same binding.

Besides the happy idea of putting up football in this reproductive form, what impressed us most about the book was the thorough manner in which the twelve pages on blocking, and the five pages on formations and shifts, are carried out. Maury Kent, Northwestern scout who organized and wrote this material, is to be congratulated on doing so good a job of describing blocks in their various applications. It was smart of Ditto to get to do this a man who knows what the coach wants. J. L.

### Encyclopedia of sports

**1935 ALL SPORTS RECORD BOOK.** Edited by Frank G. Menke. Pp. 488. New York: American News Co. \$1.

BRIEF histories of all sports from A to Y (angling to yachting) with lists of past and present champions and records, are presented by Mr. Menke in this latest edition of his Record Book. It includes national and world's records and champions up to February 1935. This is the only book of its kind—a reference for which editors and sports-

writers are particularly grateful. Then there are the boys who are always betting on what year Bobby Jones won the four major golf championships, etc., and no doubt they are ever so grateful to Mr. Menke and the American News Co.

### Lou Little's latest

**HOW TO WATCH FOOTBALL: THE SPECTATOR'S GUIDE.** By Lou Little, in collaboration with Robert Harron. Pp. 315, illustrated—diagrams, charts, photographs. New York Whittlesey House, McGraw-Hill Book Co. \$2.50.

**L**OU LITTLE, head coach at Columbia University, has become in the public eye the worker of football miracles, and the Rose Bowl scoring play, KF-79, by which, on the nimble feet of Mr. Al Barabas, the Blue and White astounded the football savants in beating Stanford, was only the other day made even more justly famous when Yale employed it to the utmost confusion of Pennsylvania.

But scoring, after all, is the outward manifestation of a profound schooling not only of a ball-carrier but also of ten other players, and replacements. The public, no doubt, will be pleased to know that the Barabas Rose Bowl play began as a spin and a half and a fake reverse off the weak side; coaches, however, will be much more impressed by the fact that Mr. Little is prompted to urge that "blocking of secondary defensive men was an important precautionary factor." The picture selected to illustrate the play shows Left End McDowell about to throw a block on the Stanford safety man, the only player with a chance to head off the ball-carrier.

In other words, Mr. Little in this book takes a football team apart to show what makes it tick and it is fair to say his thesis will be even more useful to the high school coach of limited experience than to Mrs. John Jones who would, if she could, keep up with the autumn madness which seizes upon her husband and growing sons.

Professor Little employs for the most part the Socratic method, aided by diagrams with little figures representing the players instead of circles and crosses. The result is that the plan of play is laid out in a manner which might astonish by its simplicity even some of the Columbia players who have sat in on skull-practice with blackboard demonstrations.

Nothing, perhaps, quite so clearly illustrates the value of Lou's instructive and engaging book as the explanation of why he prefers "the smashing, straight-charging line" to "sliding" forwards. "A sliding line, unless extremely smart, is at the mercy of a well-executed cutback or change-of-direction play," he insists, with the clarity and brevity of a great teacher; at the same time he brings into the clear the chief value of his own line-play methods: "I like linemen who cover their territory and refuse to do anything else, at least until they are in the opponents' backfield MESSING things up." The capital letters are mine, but the action on the field, as we all know, is typically Columbian.

The Blue and White consistently frolics in its opponents' backfields, a most distressing method of defense to even the most deceptive attack.

Mr. Little is sad because the key-man on ground-gaining plays too often gets no credit. Combinations occasionally become famous in football. Eddie Mahan, during the Harvard ascendancy before the World war, in addition to having all-America backfield men to do the missionary work



"The Blocker Does His Duty, from 'How to Watch Football' by Lou Little

up ahead, had Tack Hardwick, a rough and tumble end from the polite parlors of Back Bay. Red Grange's open sesame at Illinois was Earl Britton, and so on.

But the chances of the paying guests ever giving due credit to the blocker are practically non-existent. Even when one man of the interference has gone down the field with the ball-carrier, to knock the last tackler off his feet before the wide-open eyes of the assembled multitude, the human reaction after the touchdown is scored is to be sure to get the ball-carrier's number.

That part of the book dedicated to when a pass is to be expected; when a quick kick is indicated; when a straight buck for a first down is the only sane play, will be most illuminating to the spectator, who, even when his own side is backed up against the goal line, cannot keep his eye off the opponents' huddle. But Lou Little has gone further than that.

For the coach who watches with anxious eye a line overshifting because one of the tackles has been run ragged or a safety man instinctively creeping in too close because the backers-up have been unable to stop a running wizard and the supporting backs just barely do it, this is a book both of wisdom and comfort. And let it not be overlooked that the author acknowledges the part played by the quality of the material at the coach's disposal.

GEORGE CURRIE

### Women's Guides published

**T**HE 1935-36 Official Basketball Guide for Women and the Official Field Hockey and Lacrosse Guide (1935) for Women have recently been issued in Spalding's Athletic Library by the American Sports Publishing Co. These guides contain the official rules as well as articles on technique, tactics, officiating, selected bibliographies, and lists of officials. A

number of important changes have been made in the basketball rules, comment on which will be reserved until next month in an article by Wilhelmine E. Meissner, official interpreter for the Committee on Women's Basketball. The movement in field hockey to bring about a change of the existing rule in regard to the playing of a penalty corner has reached the point where the Committee on Field Hockey has placed a ballot in the front of the Guide and asks coaches to experiment with proposed changes and vote their opinion of them.

The following Guides of the Women's Athletic Section are now available at 25 cents each, at American Sports Publishing Co., 105 Nassau street, New York, N. Y.: 115R Athletic Handbook; 17R Basketball; 38R Hockey and Lacrosse; 121R Outdoor Baseball; 116R Soccer, Speedball, Fieldball; 125R Water Sports.

### Tips on swimming, diving

**SWIMMING AND DIVING MADE EASY.** By Ernst A. Vornbrock. Pp. 34. Illustrated—line drawings. St. Louis: Aquatic Sports Publishing Co. 50 cents.

**T**HERE is little in this book that the coach of competitive swimming and diving does not already know, but it has features which he might make use of. We hasten to say that the book is not intended for the coach. But in it the coach will find silhouette drawings showing fifteen competitive dives, each in its successive stages, which are suitable for posting on the bulletin board. Most of the material in the book would find willing eyes among high school boys and girls. It would make a good addition to the school sports library, and for this purpose we recommend it.

J. L.





"BREATHLESSNESS"

## SECOND

ANY exercise engaging large muscle groups leads to an increase in depth and rate of respiration. In that case the ventilation of the lungs becomes greater and the blood can carry more oxygen to the working muscles. But when the exercise is severe, the changes in respiration and circulation may become alarming. The subject will suffer from breathlessness, pain in the chest, throbbing and "swimming" in the head. The exercise itself will appear to be impossible to continue. In his distress the beginner is about to give up. He has reached the "dead point." And then suddenly all the distressing symptoms disappear, breathing becomes slower and easier, the pain in the chest is gone, the head clears up and the man feels as if a new source of energy has been tapped and now he can carry on indefinitely.

This remarkable change is popularly known as *second wind*. Its appearance is not always so dramatic as the above description would indicate. Sometimes it develops gradually so that the athlete is not aware of it. That is why some athletes insist that they never experienced any second wind. The time of the occurrence of the second wind depends on the individual and type of exercise. In running on a treadmill it takes several minutes to develop the second wind. According to W. Knoll<sup>1</sup> it will develop during the first third or fourth of the long distance run, and in mountain climbing it appears during the first hour. A knowledge of the time interval and the distance needed for the development of the second wind may be of practical importance. Knoll says that one long distance runner used to run 400 meters before his race. Coach

<sup>1</sup>W. Knoll. *Der tote Punkt*. Leibesübungen, 1933, p. 50.



"EXHAUSTION"

By Peter V. Karpovich

The photographs above are from the sculptures modeled from life by R. Tait McKenzie. Dr. McKenzie's comment on these, from his book "Exercise in Education and Medicine" (Saunders, 1917) follows:

"Typical face of BREATHLESSNESS as seen in any race above 200 yards.

"Typical face of FATIGUE after acute breathlessness has passed off in a distance race.

"Typical face of EXHAUSTION seen just after collapse in a distance race."

Jack Rothacher of Springfield College tried on some of his mile runners a preliminary run of half a mile, twenty minutes before the start, with a great deal of success.

### Change in respiration

Cook and Pembrey<sup>2</sup> found that the respiratory rate of one subject fell from 37 to 26 after the onset of the second wind. In another subject there was practically no change at all. Nevertheless the lung ventilation after the second wind usually becomes less. This is because with the onset of the second wind, muscular contractions become more efficient, more economical and therefore *less oxygen* is required. Actual observations showed that oxygen consumption before second wind was 10.7 times the resting value and only 8.5 times that value *after the onset* of the second wind.

### Heart rate and blood pressure

The changes in the heart rate and blood pressure are not consistent. In

<sup>2</sup>Cook, R. and M. S. Pembrey. *Observations on the Effects of Muscular Exercise Upon Man*. Journal of Physiology, vol. 45, p. 429.

<sup>3</sup>MacKeith, N. W., Pembrey, M. S. and others. *Observations on the Adjustment of the Human Body to Muscular Work*. Proc. Roy. Soc., S.B., vol. 95, p. 413.



"FATIGUE"

## WIND

many subjects the heart rate usually becomes lower. According to MacKeith, Pembrey and coworkers,<sup>3</sup> this is especially noticeable in the most vigorous men. The arterial blood pressure tends to fall with the appearance of the second wind. A fall in arterial pressure without any change in the volume of blood pumped by the heart per minute usually means that there has been a dilatation of the blood vessels. This dilatation must take place in the muscles and the skin. That the capillaries in the working muscles dilate is a well known fact. The flushed skin of an athlete is an indication of dilated blood vessels in the skin. It is quite possible, as Dr. Dawson<sup>4</sup> thinks, that there is a concomitant dilatation of the coronary artery (the artery which feeds the heart itself). This is as yet a matter of speculation.

### Temperature

During strenuous exercise body temperature may rise to a great extent. Zoethout<sup>5</sup> mentions the fact that some marathon runners have a temperature of 104° F. Naturally the change in temperature modifies the rate of bodily functions. When the temperature is low we warm our muscles; otherwise they contract slowly and without precision. When the temperature is high, we lose excess heat either through the dilated skin capillaries or through sweating. The change in body temperature is closely related to the second wind.

Berner, Garrett, Jones and Noer<sup>6</sup> found that the second wind developed faster when the rate of work was

<sup>4</sup>Dawson, P. *The Physiology of Physical Education*. Williams & Wilkins Co., 1935.

<sup>5</sup>Zoethout, W. *A Textbook of Physiology*. C. V. Mosby Co., 4th ed. 1931.

<sup>6</sup>Berner, G. E. and others. *The Effect of External Temperature on Second Wind*. American Journal Physiology, vol. 76, p. 686.



greater and the heat production was therefore greater. They also found that it occurred earlier when the outside temperature was higher. It is possible to accelerate the appearance of the second wind by wearing heavier cloth. When the outside temperature is very low, the appearance of the second wind may be considerably delayed, or it may not develop at all. The mere use of an electric fan in the laboratory where the subject is being tested will postpone the second wind.

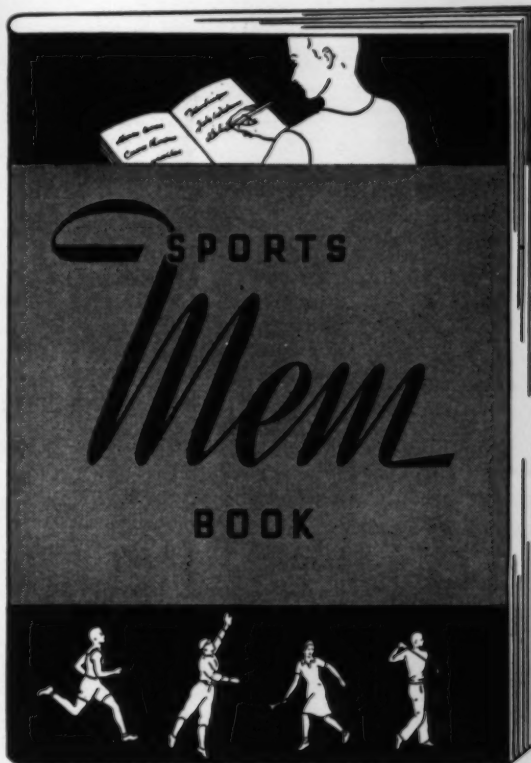
Berner and his collaborators found that it is not the temperature of the whole body that counts, but that of the muscles. They tested some subjects and found that although the second wind developed successfully, the body temperature (measured in the rectum), had not changed. This of course does not mean that the temperature of the muscles remained normal. The temperature of the working muscles is higher than that of the other organs, and should be measured directly.

For the most efficient chemical changes that take place in active muscles the temperature should not rise above a certain level. When activity becomes strenuous, the temperature of the muscles may rise too much and chemical reactions become less efficient. A great quantity of waste products accumulates. Since these waste products have a strong stimulating effect upon the brain (medulla), they increase respiration and blood circulation, cause dilatation of blood vessels and copious perspiration.

All these changes are very evident in a typical case of second wind and lead to a drop in temperature. The efficiency of the muscles improves and less oxygen is needed. Respiration and circulation are now taxed less and the person feels a great relief. The changes in the amount of the waste substances produced may be found through the examination of the blood. Several investigators found that the amount of free alkalinity of the blood increases with the coming of the second wind. If the secret of the second wind lies in a greater accumulation of the waste products, is it not possible to prevent this by some artificial means? Suppose we give a sufficient amount of bicarbonate of soda (say 10 gm.) before a vigorous exercise. What will happen? Some investigators tried this and the results were rather startling. At first the athlete felt very fine. The respiratory rate was low and there was no usual labored breathing. Then things changed. The runner gradually developed such respiratory distress that he was compelled to discontinue the run. The explanation of this is as follows: Ten grams of bicar-

[Continued on page 39]

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# A PROGRAM OF HEALTH INSTRUCTION, III

By W. G. Moorhead

Prevalence of heart and lung diseases places heavy responsibility on the athletic program

This is the third of Mr. Moorhead's series of articles on a program of health instruction for the high school, based on the curriculum set up by the Division of Health and Physical Education of the Department of Public Instruction, state of Pennsylvania, of which Mr. Moorhead is the chief.

THE two units of instruction presented this month assume real significance when consideration is given to them as they relate to our program in athletics. In the conduct of an athletic program, our first concern should be the health of those participating. A program that does not recognize this as of first importance, is indefensible as it is contrary to one of the fundamental purposes for which athletics may be conducted—the benefit of those taking part.

Heart disease and tuberculosis are altogether too prevalent at the high school age. The mortality figures for the latter, for all ages, shows a 50 percent decrease but only 25 percent for ages ten to nineteen. It is still the leading cause of death for those ages and much higher for girls than for boys. Examination of 30,000 high school pupils in Pennsylvania revealed that 30 percent reacted positively to the tuberculin test of which 3 percent were active cases. In one community, 34 candidates for the track team were given the tuberculin test—13 reacted positively and the X-ray examination showed that 3 had the disease in active form, one of whom was a far-advanced case of pulmonary tuberculosis. Dr. McCullough, Superintendent of our state sanitarium at Mont Alto makes this statement: "To permit tuberculous or seriously infected children to engage in competitive athletic sports may be little short of murder." No high school should permit its pupils to engage in such activities unless it is positively known that they are not seriously infected by the tubercle bacilli. Ignorance of the child's true state of health can no longer be excused on the part of school boards or school health authorities. Strain and subsequent fatigue are undoubtedly contributing factors to the incidence of tuberculosis, and it is significant that at the high school age children are subjected to strain—mental, emotional and physical. Our overcrowded school program with its extra-curricular activities must assume much of the responsibility for these conditions.

## HEALTH OF THE RESPIRATORY SYSTEM

### I. Habits or Skills

Regulates ventilation properly in sleeping room and other situations; cooperates with the teacher in maintaining proper ventilation in the classroom; avoids poorly ventilated places; adjusts selection of clothing to weather conditions; avoids wearing extra wraps indoors; maintains good posture; develops desirable habits of elimination; maintains regular habits of sleep and rest; gets a sufficient amount of sleep regularly; eats a sufficient amount of food daily; selects balanced meals; gets some sunshine daily; works or plays out of doors daily; takes shower following vigorous physical activity; avoids over-fatigue; regulates willingly and intelligently the amount of social activities in which he participates; avoids contact with persons having colds; covers a cough or sneeze with handkerchief; avoids use of common drinking cup or towel; consults family physician when he has persistent cold; avoids use of patent medicines for colds; follows advice of physician; cooperates when necessary to have tonsils, adenoids or other physical defects corrected; has annual health examination, including the lungs, by family or school physician

### II. Attitudes

Enjoys participation in outdoor recreative activities; has consideration for others when infected with a cold; realizes the importance of care of the respiratory system; is not frightened by the existence of communicable respiratory diseases in the school but appreciates the value of preventive measures

### III. Knowledges

#### A. Why the body needs air

#### B. The air passages

##### 1. Location, simple structure and function of

- Nose, throat, larynx, trachea
- Bronchial tubes.
- Lungs
- Diaphragm and other muscles

##### 2. The breathing process

- Action during inspiration and expiration
- Breathing an involuntary activity. Undesirability of regulating the rate of breathing by breathing exercises. Deep breathing produced by vigorous exercise of large muscle groups

##### 3. The effect of posture on the development and efficiency of the lungs

##### 4. The effect of tight clothing about the chest or abdomen on breathing

#### C. How the body uses the air we breathe

#### D. The need for pure air

Oxygen in the air; pure air versus foul air; need for good ventilation, emphasizing—clean air, movement of air, humidity, temperature

#### E. Impurities in the air

1. Dust in the home, school or in industry; its effect on the breathing passages; function of cilia; sanitary methods of cleaning

2. Excessive smoke in cities; means of prevention

3. Effect of inhaling cigarette smoke

#### F. Protecting the respiratory system against disease

1. Nature's protection against germs in respiratory tract—cilia, normal tonsils, adenoid tissue; general good health

2. What we are responsible for—care and good health practices related to food, fresh air, sunshine, etc.

3. Provision for healthful surroundings in school and home

#### G. Most common infections and obstructions of the respiratory tract

##### 1. Common colds

a. Economic factors; absenteeism among workers due to colds; school absences due to colds; colds—a preventable disease

b. Effects of colds on air passages; how colds are transmitted from one person to another; means of checking the spread of colds; care of person having a cold—rest in bed, light foods, proper clothing, elimination, warmth, washing of hands, sneezing, coughing, avoiding public places (the school), etc.; dangers of spread of infection through Eustachian tube

##### 2. Sinus infection

a. Location of sinuses; care of infected sinus

##### 3. Obstruction in air passages

a. Adenoids, enlarged tonsils

b. Abnormal growth conditions

##### 4. Pneumonia—a communicable disease

a. Sources of infection

b. Protection from exposure to colds, measles, whooping cough

c. Care and prevention

##### 5. Influenza or gripe

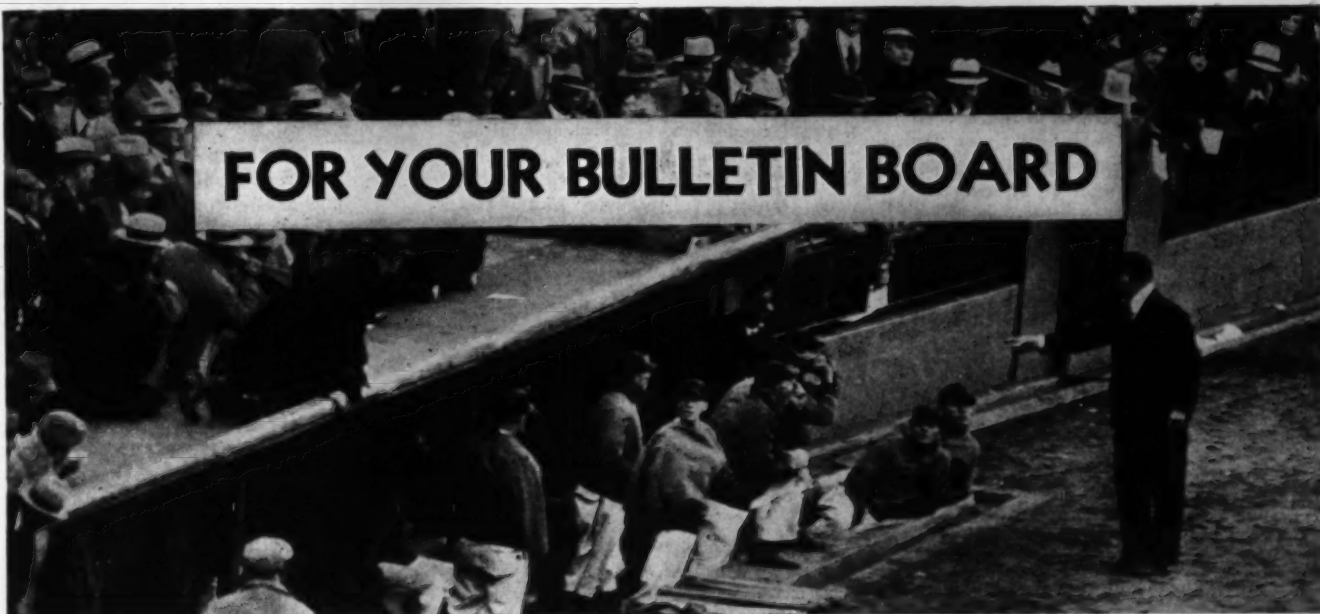
a. Seriousness of recent epidemics

b. Preventive measures

[Turn to page 26]



## FOR YOUR BULLETIN BOARD



**BANISHED!** The incident in the third game of the world's series when Umpire George Moriarty ordered Manager Charley Grimm of the Cubs and several of his players off the field. Grimm is shown here, with his hands cupped to his mouth, "trying to get in the last word, which was said to have been not a very nice word."

The banishment was the prelude to the Cubs' defeat in that game, putting them down 1 to 2 going into the fourth game. They ultimately lost the Series, 2 games to 4, and Detroit had the first Series title in baseball history.

**LEFT—A CENTER SIX FEET SEVEN MARCHES OFF WITH THE BALL:** Scene from the newly released M-G-M short "Basketball Technique," in which former college players (Southern Calif., U.C.L.A., Iowa and Fordham) demonstrate fundamentals and plays, and indulge in some trick shooting, to the accompaniment of running comment by Pete Smith. The ball used is a white one, for better visibility.

**BELOW—AN ELECTRICALLY AGITATED STRATEGY BOARD:** An English soccer coach uses a magnetic blackboard and movable metal discs to represent the players, for the purpose of analyzing the details of teamwork in the presence of his squad. The coach is George Allison and his team the Arsenal.



M-G-M



Keystone



## Athletes Improve Nutrition — Gain Extra PEP and ENDURANCE — by drinking this delicious food-drink

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## [Continued from page 24]

## 6. Tuberculosis

- a. Mortality rates in the United States; mortality rates for high school age (increasing between ages 15-24, decreasing at every other age, more prevalent among girls than among boys)
- b. Need for development of resistance through general bodily vigor (Over 90 percent of all persons harbor tubercule bacilli at some time)
- c. Conditions necessary for the development of tuberculosis (limited discussion)
  - (1) Presence of the germ (tubercule bacilli)
  - (2) Conditions favoring growth and development of the germs
- d. Chief sources of infection
  - (1) Discharges of person affected
  - (2) Milk of tuberculous cows  
Raw milk, certified milk, pasteurized milk
- e. Predisposing factors
  - (1) Heredity: do not inherit the disease—may inherit susceptibility
  - (2) Environment: homes—lack of sunshine, poor ventilation, crowded occupations
  - (3) Habits of living: overwork, overfatigue, improper food in inadequate amounts, lack of outdoor air and exercise
  - (4) Race: susceptibility of Negroes, American Indians; Irish; non-prevalence among the Jews
- f. Preventive measures
  - (1) Keep general health at high level; four chief factors—food, rest, fresh air and exercise
  - (2) Provide healthful surroundings in school and in home
  - (3) Importance of consulting a physician
  - (4) Importance of mental attitudes
  - (5) Necessity for health examination
    - (a) Importance of annual examination
    - (b) Importance of early discovery of disease
    - (c) No examination for tuberculosis adequate without tuberculin test and X-ray when test is positive

## Suggested Activities

1. Observe breathing at rest; after vigorous exercise such as in a game or short run; note difference in rate of respiration; note movement in inspiration and expiration; discuss parts of body affected
2. Learn how classroom is ventilated; discuss how pupils may help to main-

tain good ventilation; select committee to check on ventilation; keep record of temperature

3. Pupil committee report on how cities are overcoming the smoke nuisance
4. Integrate posture study with physical education; discover individuals with flat, sunken chest, suggest health practices to improve this condition; note improvement during the year
5. Learn from reports of health examination recommendations in regard to removal of tonsils and adenoids. Try to secure 100 percent correction.
6. Study the life of Trudeau
7. Study the care of children in open air schools. Emphasize the evidence of improvement through a hygienic regime of living
8. Make a study of the prevalence of colds among classes; try to improve the situation; endeavor to have pupils with colds excluded from school; study absenteeism due to colds in school as a whole; check frequently during winter months

## HEALTH OF THE CIRCULATORY SYSTEM

## I. Habits or Skills

Maintains good posture in sitting, standing, walking or other activity; avoids wearing tight clothing; engages in some form of vigorous physical activity daily; relieves heart strain by muscular activity when obliged to stand long periods at a time; rests at frequent intervals when participating in vigorous physical activity; has an examination of the heart by a physician before participation in athletics; if he has heart disorder takes proper precautions for protection; eats balanced diet; eats food with iron content; takes proper amount of rest daily; takes care of infected teeth and tonsils; avoids other infections; has complete convalescence after infectious disease; gets plenty of fresh air and sunshine; is learning to control emotions; if he has heart disorder, chooses vocation with due consideration to limitations

## II. Attitudes

Appreciates the value of the practice of good hygiene in maintaining the health of the circulatory system; desires to practice the habits which promote good circulation; desires to avoid straining the heart through excessive physical activity; cooperates with parents and physicians in caring for self if heart disorder is present; appreciates the need for avoidance of infections; appreciates the importance of having a heart examination before participating in strenuous competition in athletics or other vigorous activities

## III. Knowledges

A. Common experiences which indicate the need for a strong heart, good circulation and healthy condition of the blood

## 1. Participation in athletics

- a. The need of a strong heart to endure the strain
- b. The importance of freedom from infection

c. The need for detection of heart defects through health examination

2. Exposure to cold—the need for good circulation to keep one warm in cold weather
3. Illness—dependence on a strong heart to withstand the strain of severe illness

## B. General plan of the circulatory system (non-technical discussion)

## 1. The blood

- a. Carries nutrition to the tissues
- b. Takes waste products from the tissues
- c. Carries oxygen to the tissues
- d. Removes carbon dioxide from tissues
- e. Protects the body against infection
- f. Distributes glandular secretions

## 2. The blood vessels

- a. Channels to carry the blood to all parts of the body
- b. Serve as a medium through which interchange of substances in the blood with those in other tissues is accomplished
- c. Assist in regulating bodily temperature

## 3. The heart

A muscular organ

## C. The cell—the unit of structure in the body

## 1. Simple structure of cells

2. Metabolism—emphasize the continuance of this process all through life

## 3. How cells reproduce

## 4. Dependence on blood stream

- a. For nutrition
- b. For oxygen supply
- c. For removal of waste products
- d. For protection against infection

## D. The composition of the blood

## 1. The red blood cells or corpuscles

a. Work of hemoglobin in carrying oxygen in accordance with the needs of the tissues

(1) Inability of the tissues to store up supplies of oxygen

(2) Futility of taking breathing exercises to increase supply of oxygen in body when there is no demand for it in the tissues

## b. Development of red blood corpuscles

(1) In red marrow of the long bones

(2) Length of life of single red blood cell (2-4 weeks)

(3) Breaking down in liver

## c. Anemia

(1) Condition denoted by

- (a) Reduction of red blood cells or
- (b) Reduction of hemoglobin in each red cell

(2) Effects on health

Diminishes oxygen carrying power of blood



- (3) The importance of good hygiene in helping to correct anemia
  - (a) Foods containing iron
  - (b) Adequate sleep and rest
  - (c) Fresh air and sunshine
- (4) The meaning of blood count
2. The white blood cells or corpuscles
  - a. Ability to alter shape (amoeboid action)
  - b. Proportion to red blood cells
  - c. How white corpuscles destroy germs (phagocytosis)
    - (1) Work of the leukocytes
    - (2) Importance of this germicidal power in protecting the body in case of infection, local or general
3. The plasma of the blood
  - a. Liquid part of blood—enables it to flow to all parts of the body
  - b. Water content—action as a solvent
  - c. Composition of plasma
    - (1) Water; (2) Gases; (3) Food; (4) Inorganic salts; (5) Waste products; (6) Protective substances; (7) Hormones
  - d. Plasma—through process of osmosis becomes part of lymph stream
- E. The organs of distribution of the blood
  1. The heart
    - a. A hollow muscle
      - (1) Importance of emphasizing that strength of heart muscle is developed on same principles as strength in other muscles
    - b. Structure of the heart
    - c. How the heart does its work
    - d. Nervous control of heart
    - e. The rhythm of the heart beat or cardiac cycle
      - (1) Influence of muscular exercise
      - (2) Influence of emotions
    - f. What blood pressure means  
How measured
    - g. How heart is aided in its work
      - (1) By valves in veins; (2) By exercise; (3) By lungs; (4) By massage; (5) By posture;
  2. The blood vessels
    - a. Functions of
      - (1) Arteries
      - (2) Veins  
Varicose veins
      - (3) The capillaries
    - b. Elasticity of blood vessels
      - (1) Importance in regulating bodily heat
      - (2) What blushing is
    - c. Effects of exercise or massage on veins and arteries

[Turn to page 28]



## COACHES' CORNER



## ONE IN... NINETY-NINE OUT

● "Team! Team! Team!" Five thousand voices roar applause for the team. And that's fine school spirit.

But is side line cheering the only game that the majority of students are going to learn while in school? It's fine, to be sure, as far as it goes—but is that far enough?

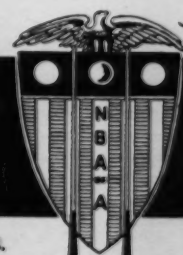
You are a coach. You've thought of this many times. For each member of the teams there are ninety-nine who can't make them—and for whom there is not room even if they could.

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[Continued from page 27]

- F. How the blood circulates (limited discussion)
  1. The pulmonary system
  2. The systemic system
  3. The portal system
- G. The work of the lymphatic system
  1. How the plasma becomes part of the lymph fluid
  2. Lymph spaces
  3. Lymphatic vessels
    - a. Structure of
    - b. Effect of contraction of muscles on flow of lymph
  4. The lymph glands
    - a. Location, size, structure
    - b. Their functions
      - (1) Create white corpuscles
      - (2) Protect the blood by filtering and killing germs
      - (3) Importance of function during infection
- H. Care of the circulatory system
  1. Avoidance of use of alcohol
  2. Avoidance of use of tobacco
  3. Need for adequate sleep and rest
  4. Avoidance of tight clothing
  5. Conserving bodily heat by proper amount of clothing
  6. Avoidance of infection
  7. Care of injured blood vessels
  8. Care in participation in vigorous exercise—athletics
  9. Influence of thought and feeling
  10. Improving quality of the blood by hygienic practices
  11. Protection in case of heart disorder
  12. Avoidance of drugs
- I. The need for prevention of circulatory diseases
  1. Statistics showing high mortality rates from heart disease
  2. Other circulatory disturbances

#### Suggested Activities

- I. Teacher demonstrate with one pupil pulse rate response to exercise and rest
  - A. Find normal pulse rate of pupil while standing. Repeat several times until two successive records are alike
  - B. Have pupil run in place for fifteen seconds, bringing knees up
  - C. Count pulse rate again immediately after the exercise
  - D. Determine time it takes for pulse to return to normal(Caution: Do not attempt to interpret findings or arouse morbid interest on part of boys and girls.)
- II. Same for time required for heart to return to normal in changing from prone to standing position

In his next article Mr. Moorhead will deal with the care of the skin, hair and nails, and the health of special senses.

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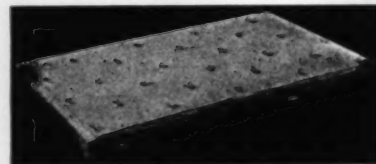
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## Basketball Strategy

[Continued from page 7]

are utilized with a premium upon individual versatility and variety in team play. The solutions evolved will form an interesting part of the season and should increase greatly the game's popularity.

A few coaches who either had no good pivot players or who disliked that type of offense have been working with other formations and tactics for several years. What they have discovered will be the basis for set offensive play in 1935-36, but many ingenious adaptations will be developed. It takes some time and much practice to build a new type of set offense, while a satisfactory fast-break scheme can be worked out in a comparatively short time. Consequently, it is probable that the fast break will be used more generously, at least during the early weeks of the season, than it has been for many years. In fact some teams may become so expert with the fast break that the use of set plays will be dropped entirely. Perhaps that will be a good thing, for sections which have always depended upon the fast break have thrilling games with high scores.

Most coaches, however, feel that a team must be equipped with additional means of scoring and they will experiment with different types of delayed, set or timed plays. Two general schemes have enjoyed considerable success in recent years. These may be classified roughly as the double post and the rotating figure 8 plans. A brief description accompanied with diagrams will show some of the possibilities of these schemes.

Retreated Double  
Pivot Post Play

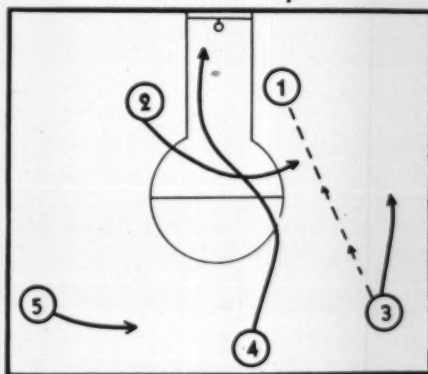


DIAGRAM 1

No. 3 passes to 1 and threatens down the sideline to prevent his guard from doubling-up on 1.

As the pass is made 2 circles to a position in front of 1 and hesitates.

Also starting with the pass, 4 cuts so as to force his guard into a screen formed by 2.

If all moves are timed properly, No. 1 finds the ball in his hands with at least four possi-

[Turn to next page]

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what then? Will the players emerge unscathed from the game, or will the team be crippled with casualties?

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[Continued from page 29]

ble scoring chances. Which one he chooses will depend upon defensive moves.

He may try for a score; pass to 4 under the basket; pass to 2 in front; or pass to 3 on the sideline.

A similar play may be worked on the other side with 5 passing to 2.

Spread Double  
Pivot Post Play

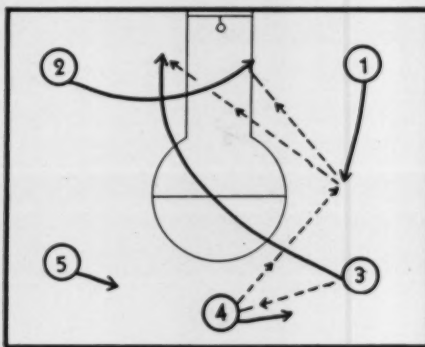


DIAGRAM 2

No. 3 passes to 4 and drives across court to a screening position near 2. His move vacates the right side, and permits a pass from 4 to 1.

No. 2 swings around 3 in an attempt to screen off his guard.

If properly executed the guards of 2 and 3 are forced to shift assignments. Any confusion or tardiness in this shift makes possible a pass from 1 to either 2 or 3, both of whom are in scoring range.

A similar play on the left side of the court is possible.

Teams using any type of pivot plays usually try to keep their scoring, passing, and defensive experts in advantageous positions. For that reason they return the ball to mid-court whenever the defense stops reasonable scoring chances, and delay play until their men have reached their assigned positions. Hence, the names commonly applied to this type of offense are "timed," "set," or "delayed."

Should the players exchange positions in the event of play failure and start another play without delay we have the development of a "rotating" offense. The most effective rotating offenses send their players through paths of the figure 8, hence the common use of the term "Figure 8" as a name for the scheme.

The number of possible moves in a rotating plan is extremely large. The accompanying diagrams and explanations are intended only as typical of the steps by which a set offense may be developed into a rotation type. Assuming that the scoring attempt in Diagram II has been checked by the defense before No. 1 releases the ball, the players need to move only a stride or two to be in the positions shown in Diagram III.

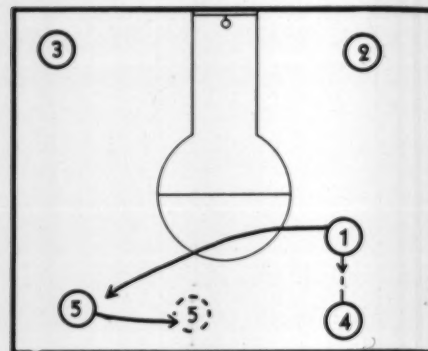


DIAGRAM 3

With other passing lanes blocked No. 1 returns the ball to 4 and crosses court to the place vacated by 5. The team then is back to the starting formation shown in Diagram II but each player has shifted his floor position.

No. 4 is ready to pass to 5 and repeat the play as sketched in Diagram II.

Should scoring attempts be blocked for seven consecutive plays all men would be back in the original positions.

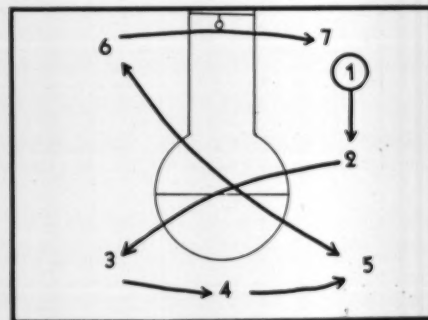


DIAGRAM 4

Diagram IV shows the path taken by player No. 1 during the series with stations numbered in order. His path roughly is that of a figure 8.

The defense soon solves these moves if the players follow the same paths time after time. Rotation offenses provide for startling breaks in these paths by reversing the direction of players and passes. In fact, it is by sudden changes in the rotation that these types of offenses expect to confuse their opponents.

The effect upon individual player requirements by the new rule will be as pronounced as upon the type of team offense. Every boy on a team will be required to do more things well. A tall man who has as his only recommendation an ability to stand near the basket and toss the ball into the goal must now learn to pass and use his feet in deceptive maneuvers. Forced away from his most effective shooting position he must find other ways to make himself valuable to his squad or a shorter player who has mastered all of the individual offensive fundamentals will take his place. In other words, the new rules will tend to place greater emphasis on versatility in individual performance as well as on variety in team play.



### To penetrate zone defenses

In the foregoing diagrams I have assumed that the opponents are using a man-to-man defense. If a zone defense is faced the double pivot post plays in Diagrams 1 and 2 lose much of their effectiveness unless some passing and timing adaptations are developed. The ball must be moved rapidly and continuously to cause many changes of position by the defense. During this ball movement attempts to run two offensive men into a zone and quickly feed one of them a pass should be made. Zone defenses are designed to check screen plays and to bottle-up short shots. Realizing this the teams using double pivot posts must rely on shooting accuracy from fifteen to twenty foot distances. If once ahead in the score a double post offense may keep up a ball possession scheme until the zone is forced to change to a man-to-man.

Figure 8 rotation offenses usually have no more fear of a zone defense than of any other type. The continuous shifts of player position combined with rapid ball movement are more often confusing to the zone defense than to a smart man-to-man. Generally speaking a rotation scheme which is smooth enough to work against one defense will do as well against the other. The slight modifications sometimes necessary are concerned more with player judgment than with offensive skill or changes in the mechanics of the offensive formation.

### Interscholastic Swimming Coaches' Association of America

Swimming coaches in Michigan will hold their annual swimming rules meeting at the Univ. of Michigan Nov. 23. The new order of events will come up for consideration.

*Charles E. Forsythe, National Federation representative on the N.C.A.A. Swimming Rules Comm., has made favorable improvement from his recent illness, but will not be able to resume his duties as state director of interscholastic athletics for some time.*

New members of the Interscholastic Advisory Committee to the N.C.A.A. Swimming Committee, to be officially announced with the publication of the 1936 Guide on Dec. 15, are: Charles E. Forsythe, Lansing, Mich., of the Rules Committee, to replace C. W. Whitten, secretary-treasurer of the National Federation; Hugo W. Matson, Eastern H.S., Detroit, to replace T. J. Clemens (deceased), Northern H.S., Detroit; Walter Short, New Jersey director of interscholastic athletics, to replace F. B. Coll, Atlantic City H.S.; Paul W. Lukens, Hibbing H.S., Virginia, Minn., to replace H. L. Boardman, Virginia, Minn., H.S. Addition to the Committee; Charles McCaffree, Jr., Battle Creek, Mich., H.S.

Alfred A. Gross, Rutgers '34 has compiled an Olympic diving chart, one of the finest this writer has seen. It is complete and gives the dives as performed in accordance with the rules of the International Swimming Federation in alliance with the A.A.U. This chart may be obtained by sending one dollar to Alfred A. Gross, 373 St. James S. West, Montreal, Canada.

CHARLES MCCAFFREE, JR.



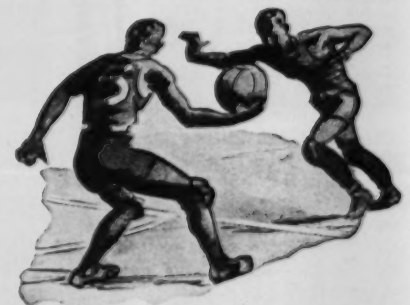
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# Over the Field

This department is conducted by Hyman Krakower, Ph.D., a member of the staff of the Department of Hygiene, College of the City of New York.

## Books on Health and Sports\* Education

The books listed are among the outstanding texts in the field of (general) health and sports education. Readers desiring to purchase any of them may do so through Scholastic Coach Bookshop, 250 E. 43rd St., New York, N. Y., if the order is accompanied with payment, or submitted on official school purchase form.

**Bovard, John F. and Cozens, Frederick W.** *Tests and Measurements in Physical Education.* Philadelphia: W. B. Saunders Co., 1930. Pp. 364. \$2.75.

An outstanding text in the field of measurement. A history of testing in physical education followed by a description of "standard" tests in use, from the elementary grades through the college. Simple statistical procedures are given, as well as a section on how to set up a test.

**Brock, G. D.** *Health Through Projects.* New York: A. S. Barnes and Co., 1931. Pp. 268. \$2.

A study of health through "doing." A list of references, aims and objectives, are presented for each topic. Health score cards, and suggestions for making posters and graphs, should prove helpful.

**Franzen, Raymond.** *Physical Measures of Growth and Nutrition.* New York: American Child Health Association, 1929. Pp. 138. \$1.

This study covers data of 7500 public school children in 38 states. An important outcome of the investigation was the finding that the correlation of height and weight has been given too much emphasis; as combinations of other skeletal measures correlate higher with weight. The procedure used in determining nutritional status is described.

**Hetherington, Clark W.** *School Program in Physical Education.* Yonkers-on-Hudson: World Book Co., 1922. Pp. 132. \$1.20.

One of the foremost philosophers in physical education discusses the status, objectives, and principles of physical education and health, as concerning the natural play life of children and youth, rather than with the formal activities.

**Keene, Charles H.** *The Physical Welfare of the School Child.* New York: Houghton, Mifflin Co., 1929. Pp. 505. \$2.40.

A book on school hygiene and health, concerned with the school health program, health supervision, and administration. A historical review up to the present, is included.

**Lee, Joseph.** *Play in Education.* New York: Macmillan Co., 1923. Pp. 500. \$1.80.

One of the foremost exponents of play as a factor in education discusses sports in terms of the play movement, its importance in building the "team idea," and its social significance.

**Leonard, Fred E. (Revised by R. Tait McKenzie.)** *A Guide to the History of Physical Education.* Philadelphia: Lea and Febiger 1927. Pp. 371. \$4.

A detailed text presenting the development of physical education from earliest times. Describes the rise of gymnastics, the playground movement, the establishment of departments of physical education, and the early history of school and college athletics.

**Lowman, Charles L., Colestock, Claire and Cooper, Hazel.** *Corrective Physical Education for Groups.* New York: A. S. Barnes and Company, 1928. Pp. 521. \$3.60.

A text for the elementary and secondary schools, describing the influence of posture on growth and development. The organization, classification, methods, and selection of exercises, are fully described.

**Matthais, Eugen (Translated by Carl L. Schrader).** *The Deeper Meaning of Physical Education.* New York: A. S. Barnes and Co., 1929. Pp. 88. \$1.

A presentation of the underlying principles of physical education, emphasizing the integrated development of the physical, social and cultural potentialities of youth. The author discusses the problems of physical education during the years of development, and the importance of selecting activities intelligently.

**Mitchell, Elmer D. and Mason, Bernard S.** *The Theory of Play.* New York: A. S. Barnes and Co., 1934. Pp. 536. \$2.80.

A book on play, based on psychology, sociology, and philosophy, and the present day recognition of the value of play as a phase of general education. The book is divided into four sections: the Historical; the Theory of Play; the Need for Play; and its Administration.

**Nash, Jay B.** *The Administration of Physical Education.* New York: A. S. Barnes and Co., 1931. Pp. 491. \$3.

This book should prove of great assistance to those interested in the administrative phase of physical education. Part one, the Introduction, deals with definitions and the legal machinery involved; Part two, the Setting of Objectives; Part three, the necessary organization in conducting a department of physical education; Part four, the routine administration involved; Part five, the checking of results.

**Nash, Jay B. (Editor)** *Interpretations of Physical Education.* New York: A. S. Barnes and Co., \$2 per volume, or \$9 for the entire set.

A series of books containing contributions by leaders in the profession. Volume I: *Mind-Body Relationships.* II: *Nature and Scope of Examinations.* III: *Character Education Through Physical Education.* IV: *Physiological Health.* V: *Professional Preparation.*

**Neilson, Neils P. and VanHagen, Winifred.** *Physical Education for Elementary Schools.* New York: A. S. Barnes and Co., 1930. Pp. 365. \$2.

This book, based on the California State Manual, contains a well-rounded program of physical education. The first section of the book deals with the organization and administration of a program of physical activities. The second section consists of a graded program of activities for each grade.

**Nixon, Eugene W. and Cozens, Frederick W.** *Introduction to Physical Education.* Philadelphia: W. B. Saunders Co., 1934. Pp. 262. \$2.50.

An introductory text, for the professional and the non-professional student, on the principles of physical education. Also, views on every-day problems, i. e., social-moral training, leisure time activities, student participation, etc.

**Rice, Emmett A.** *A Brief History of Physical Education.* New York: A. S. Barnes and Co., 1929. Pp. 288. \$2.

A book simply written, covering the history of physical education from primitive society to modern trends. The presentation is in the form of great movements.

**Rogers, Frederick R.** *Fundamental Administrative Measures in Physical Education.* Newton, Mass.: Pleiades Co., 1932. Pp. 261. \$2.75.

The volume opens with arguments for measurements in physical education, followed by a section of simple statistical procedures. The set-up for the medical examination, scoring of defects, and the complete administrative set-up for the measuring of physical efficiency, are described.

**Sharman, John R.** *Introduction to Physical Education.* New York: A. S. Barnes and Co., 1934. Pp. 317. \$2.

A text aimed to orient prospective teachers in the field of health and physical education. A comprehensive view of physical education for the entire school system. Some of the topics covered are: Aims and Objectives; Health Service and Supervision; Method; and Administration of Athletics.

**Staley, Seward C.** *The Curriculum in Sports (Physical Education.)* Philadelphia: W. B. Saunders Co., 1935. Pp. 373. \$2.50.

The foundation and the framework for building a physical education (sports) program oriented to present-day educational standards. As a preliminary, the author presents a strong argument for changing the name physical education to sports education or, simply, sports.

**Turner, Claire E.** *Principles of Health Education.* New York: D. C. Heath and Co., 1932. Pp. 317. \$2.

A book on principles and practices of health education. Information concerning health education principles and practices available up to the present time. Many of the phases of health education in the elementary and the secondary school are discussed.

**Way, Abner P. (Editor).** *The Physical Education Handbook.* New York: A. S. Barnes & Co. \$6.

A loose-leaf handbook consisting of a series of 18 sections (each with separate cover), and dealing with a specific phase of the physical education program.

**Williams, Jesse F. and Brownell, Clifford L.** *The Administration of Health and Physical Education.* Philadelphia: W. B. Saunders Co., 1934. Pp. 598. \$3.

A well-written and informative text on the administration of health and physical education programs. In addition to the administrative and legal aspects of administration, it covers, the health service and instruction, the personnel and their duties,

\*Until a better term is found, Scholastic Coach prefers sports education to physical education, following the lead set by Seward C. Staley in his book *Curriculum in Sports (Physical Education)*.



and the construction and care of indoor and outdoor facilities.

Williams, Jesse F., Dambach, John I. and Schwendener, Norma. *Methods in Physical Education*. Philadelphia: W. B. Saunders Co., 1932. Pp. 222. \$2.25.

A description and application of the teaching methods of leaders in the field of physical education. It stresses the fact that there is no one best method, but many methods, depending upon the situation. Separate chapters are devoted to the methods of teaching special activities, such as dancing, swimming and athletics.

Wood, Thomas D. (Chairman). *The School Health Program*. New York: Century Co., 1932. Pp. 400. \$2.75.

A series of summarized reports of twenty-four sub-committees organized under the General Committee on the School Committee (White House Conference). A concise and thorough statement of the policies and plans of a school health program. Recommendations and standards, as set up by the various committees, will give the reader a knowledge of a complete school health program.

Wood, Thomas D. and Brownell, Clifford L. *Source Book in Health and Physical Education*. New York: Macmillan Co., 1925. Pp. 590. \$2.50.

A comprehensive book containing source material in health and physical education. Some of the topics are: history of physical education, sportsmanship, testing and play.

Wood, Thomas D. and Rowell, Hugh G. *Health Supervision and Medical Inspection of Schools*. Philadelphia: W. B. Saunders Co., 1927. Pp. 637. \$7.50.

An excellent guide to all who play a part in school health service. Every phase of the medical inspection and the health supervision of school children is covered. The authors work towards co-ordinating the efforts of teacher and physician for the betterment of child health, so that the fullest process of education may go on.

Zwarg, Leopold F. *A Study of the History, Uses and Values of Apparatus in Physical Education*. Philadelphia: Temple University, 1931. Pp. 139. \$1.

A historical study of the use of apparatus, and the individuals responsible for their development; the part played by apparatus in the development of physical education. The book also contains apparatus nomenclature and exercises.

## Other books

Some of the books, mentioned in previous issues of *Scholastic Coach* that have made an important contribution to the literature in health and sports education are:

Bowen, Wilbur P. *The Conduct of Physical Activities*. New York: A. S. Barnes and Company, 1927. Pp. 173. \$2.

Griffith, Coleman R. *Psychology and Athletics*. New York: Charles Scribner's Sons, 1928. Pp. 281. \$2.

McCloy, Charles H. *The Measurement of Athletic Power*. New York: A. S. Barnes and Company, 1932. Pp. 178. \$3.

Mitchell, Elmer D. *Intramural Athletics*. New York: A. S. Barnes and Co., 1929. Pp. 191. \$2.

Nash, Jay B. *The Organization and Administration of Playgrounds and Recreation*. New York: A. S. Barnes and Co., 1928. Pp. 547. \$3.

National Recreation Association. *Recreative Athletics*. New York: A. S. Barnes and Co., 1930. Pp. 200. \$1.

University of Michigan, Staff of the Department of Physical Education for Women. *Physical Education Activities*. Philadelphia: Lea and Febiger, 1928. Pp. 322. \$3.50.

Wayman, Agnes R. *Education Through Physical Education*. Philadelphia: Lea and Febiger, 1934. Pp. 378. \$4.

Williams, Jesse F. *The Organization and Administration of Physical Education*. New York: Macmillan Co., 1923. Pp. 325. \$2.

Williams, Jesse F. and Hughes, William L. *Athletics in Education*. Philadelphia: W. B. Saunders Co., 1931. Pp. 414. \$3.

Williams, Jesse F. and Morrison, Whitelaw R. *A Text Book of Physical Education*. Philadelphia: W. B. Saunders Co., 1931. Pp. 343. \$2.75.

Williams, Jesse F. and Nixon, Eugene W. *The Athlete in the Making*. Philadelphia: W. B. Saunders Co., 1932. Pp. 258. \$2.50.

Wingate Memorial Lectures—Public School Athlete League. New York: Wingate Memorial Foundation. Each \$2. *Intimate Talks by Great Coaches*. 1929-30. Pp. 578. *School Athletics in Modern Education*. 1930-31. Pp. 689. *Aims and Methods in School Athletics*. 1931-32. Pp. 481.



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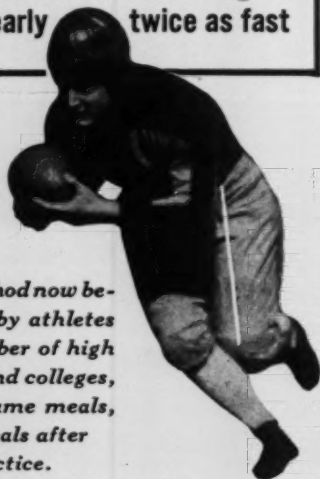
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## Football Officials at Odds As Whistles Toot Fast & Slow

WHAT do you blow, or like to have blown? Slow whistle or fast whistle? If your ball-carrier, as he is being tackled, makes a rear turn and throws a backward pass to a teammate, even though the forward progress of the ball-carrier was stopped, do you want the referee to blow the ball dead?

The N.C.A.A. football rules for the current season, in the Supplemental Note to Rule 7, Section 7, permits the

to alter the cold finality of the "forward progress" clause.

High schools in thirteen states (Colorado is the latest to join up) using the Official Interscholastic Rules of the National Federation of State High School Athletic Associations, are not affected by the Supplemental Note juggling. No Supplemental Note appears in their rule book to throw the "forward progress" clause for a loss.

At an interpretation meeting in New York, Walter Okeson, chairman of the N.C.A.A. Football Rules Committee and editor of the Spalding Football Guide, said



Academic question: What rule applies when his forward-breathing progress is stopped?

referee to withhold his whistle when "a runner who is on his feet even though he be held by an opponent" passes or kicks the ball. But this supplemental note makes no reference to the term "when his forward progress is stopped," which is confined exclusively to Article 1 of the same rule. Is the Supplemental Note a contradiction to Article 1?

Literally it is not, because of the omission of reference to "forward progress" in the Supplemental Note. If the Supplemental Note read: "A runner who is on his feet even though he be held by an opponent, and his forward progress is stopped, may pass or kick the ball," etc., then there would be a literal contradiction between the Supplemental Note and Article 1. But regardless of this, there is no lack of contradiction among football experts who, now, are lining up in two camps: the slow-whistle boys who want to give the ball-carrier a chance to make these passes; and the fast-whistle boys who cannot see how the Supplemental Note can be made

that in the past 75 percent of the referees used the slow whistle when it seemed the proper thing for them to do. Now, he said, this was legalized and the burden is placed on the fast whistle blowers to fall into line with the others and give the runner a chance.

In other words, if a back were to break through the line of scrimmage and be tackled low by a defensive man, then the referee should hold off on his whistle if he sees another player moving into position to receive a lateral. The carrier, however, would have to have his arms free and both feet on the ground. The tendency then, in Okeson's opinion, will be toward a slow whistle this season.

Bill Crowley, president of the Eastern Intercollegiate Football Officials Association, does not agree with him. He said that the whistle-tooting should be no slower than last year. In this matter, he averred, the great majority of officials were in complete accord.

Okeson said that in former years a coach would not teach his players to throw laterals after being tackled because there was great uncertainty as to whether the



officials would be quick on the whistle or not. Now he said the coaches could go ahead in full confidence of having a slow whistle.

Crowley, spokesman for the officials, said:

"The primary duty of a football official is to protect the boys. As I see this new rule it means that the ball carrier will have to be so tackled that he will not be in any position to throw the ball laterally. That also means that not one but two or three tacklers are going to rush in and just crucify that ball carrier. It is going to mean a rougher game and in order to avoid this roughness the officials will have to be just as fast on the whistle as they ever were.

"I've seen too many youngsters badly injured and some of them killed to be willing to let a game I handle get out of control. That is why I believe that the officials are going to protect that ball carrier and halt the play the same as they have always done. Officiating, after all, is largely a matter of discretion and this discretion will call for the same tactics as we used before."

## Coaches' Associations

[Continued from page 12]

Al Lesko, one time Penn State football and baseball star has switched his efforts from the Bordentown H. S. to Clifton, N. J.

Thomas Jefferson H. S. of Elizabeth is looking to Frank Kirkleski, its new coach, to lead it to the football Elysian fields. Kirkleski, one-time Lafayette star, whose record at Woodbridge has stamped him as comer in football coaching ranks, is introducing the Warner system at Thomas Jefferson.

Thomas Gannon, who has been assisting at Central H. S., Newark, for the past two years is in charge of the team this fall.

Paul Cherin replaces Carl Smith, at Millburn H. S., and Red Grower will handle the East Side H. S., Paterson, football team.

A. F. "Pat" Clemens, who, when at Roxbury H. S. was a thorn in the side of some of the bigger high school teams in the state, this year has turned up as coach of the Trenton H. S. football team, replacing Ed Murphy. Clemens teaches the Warner system. He is trying to combine some of the virtues of this style with some Notre Dame principles willed to him by Ed Murphy. It will be interesting to watch the result.

Bob Hoehn, coach of the consistently successful Kingsley school of Essex Fells, sent his team into its opening game with the Philipsburg Parochial School with one of the finest offenses ever presented by schoolboys in an opening game. Hoehn's confidence in the lateral pass was exhibited in practical form; two of his team's three touchdowns came as a direct result of its successful use. Off tackle plays and forwards with laterals, came out of formations which Lou Little has played so successfully at Columbia Univ.

William L. Foley, coach of Bloomfield H. S. football teams, who has brought more championships to the Northern section of the state than perhaps any other coach, maintains that the lateral pass play which has become so popular this year, says: "Way back in 1898 the better teams around New England used the lateral pass play as a regular part of offense,

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\*Based on actual letter from our files

## ABSORBINE JR.

Relieves sore muscles, bruises,  
muscular aches, sprains,  
Athlete's Foot

(Continued from page 35)

even as we use the forward pass today. Many teams from around Nova Scotia and Canada, where English Rugby was more popular, used to come down with the flashiest kind of passing. New England teams playing the American style of football, picked up a lot of the visitors' tricks then, and applied many of them. With the perfection of our defense the New England teams found that lateral-pass play, as was often the case with our forward pass in its early development, was sometimes a boomerang. Just as in the early stages of our forward-pass development when defenses against interceptions were not perfected, so with the lateral-pass plays. Many times a sweeping pass laterally would be intercepted. When this happened often enough the team would revert to the surer method of attack and it wasn't long before the lateral-pass play was forgotten. There is no doubt in my mind that the visit of the Englishmen last year was responsible for the sudden resumption of the lateral, and that it will be popular this year, particularly with spectators. For us at Bloomfield we're going to continue to teach blocking and tackling and only after we perfect these, shall we consider the lateral pass—a form of attack pretty advanced for high school boys."

And, with this off his chest, our genial Mr. Foley proceeded to trot out another team which promises to cut its way up to a place alongside of his past champions.

CHARLES J. SCHNEIDER,  
Weequahic H.S., Newark

### Minnesota

**A**LTHOUGH the Minnesota Coaches' Association meets but twice annually, certain sections of the state have organized their coaches into groups for the purpose of getting together from time to time to discuss changes and interpretations in the rules, officials' fees, clinics and other matters. Two of the outstanding groups are those located in the Twin Cities and on the Iron Range in northern Minnesota. The writer will endeavor to discuss some of the activities of the latter organization.

The first meeting, held early in September, was attended by many coaches and officials from all parts of the Iron Range and Duluth. The question of officials' fees for football, basketball, swimming, hockey and track was brought up for discussion. Dissatisfaction with the present fees paid officials was expressed and plans were made to bring this matter before the various district committees in this area with recommendations that the old schedule of fees be restored. The following table shows the present and old scale of officials' fees:

FOOTBALL		
	Present Scale	Old Scale
Referee .....	7.50	10.00
Umpire .....	6.00	8.00
Head-linesman .....	6.00	6.00
BASKETBALL		
Referee—7.50 (if working alone)		10.00
6.00 (if two are working)		10.00
SWIMMING		
Referee .....	5.00	7.50
HOCKEY		
Referee .....	5.00	7.50
TRACK		
Referee .....	5.00	10.00

The balance of the meeting dealt with football problems. Art Von, prominent state official, talked on the differences between National Federation and N.C.A.A. rules. Arrangements were also made to

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conduct at least three football clinics.

These clinics began the week following the above meeting and were well attended. The last one, held at Hibbing under the floodlights, carried an invitation for the public to attend. The main intention was to acquaint the spectators with football in general. Two teams were on the field, one for offensive tactics and the other to illustrate the various types of defense. Single and double wing-back formations were presented, as well as the Notre Dame and Michigan styles of offense, with a few simple plays executed from each variation. The defense was arranged in a number of the most common formations now in use, with most emphasis placed on the six-man line and 2-2-1.

Football in Minnesota is proving more interesting and exciting this season than in many years past. The tendency is for a more open style of play with plenty of laterals and forward laterals. Reports from several representative sections indicate that most of the high school coaches are using the single wing as their fundamental formation. Of course, there are slight variations in some cases but the general trend appears to have a strong leaning toward Bernie Bierman's style of offense. On defense the 6-2-2-1 formation seems to be almost universally used, although a few coaches still cling to the 7-1-2-1.

Night football is becoming more and more popular in Minnesota. Last year saw many gridirons equipped with floodlights for the first time, but this year the increase is even more noticeable. The opinion is that many other high schools will fall in line next season. The gate receipts at these night games have been more than gratifying and it is this fact alone that will no doubt lead to its increasing popularity.

H. J. ROELS, Chisholm H.S.

## Indiana

THIS is the first appearance for Indiana in this new department, and it is the writer's hope to be able to produce in future issues a column to compare favorably with his neighbors. For a starter we will look over the field and see what new faces are in new places:

Although losing but one game all season, a season that included around 33 games, Coach J. P. "Hunk" Francis was removed from the Jeffersonville command. He then signed with Windfall, a smaller school. Tom Rea relinquished the Jasper post to Woody Weir and took charge at Washington. Burl Friddle, who directed Washington to a state title in 1930, shifted to South Side H. S. of Ft. Wayne. The veteran Tim Campbell retired at Tech H. S., Indianapolis and was replaced by Bayne Freeman from Bedford. Paul Wetzel was named head man at Princeton while his predecessor, Charles McConnell, became basketball coach at New Albany. J. W. "Windy" Ballard left New Albany and moved to Shelbyville. Paul Lostutter departed from Shelbyville and replaced Freeman at Bedford.

Four football coaches, when asked how many hours per week they spent on the practice field, replied with four different answers. The first said ten hours, the second nine hours, the third nine and a half, and the fourth puts in eleven hours.

At the October 16 meeting of the I.H.-S.A.A. Council the question of limitations in the seasons of sports arose. Many thought that the basketball season begins too early and includes too many games and tourneys in the season.

MARK C. WAKEFIELD, Evansville H.S.

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## Arizona Coaches

[Continued from page 15]

gard to the second reason for lack of civic organization membership, no defense is offered.

**Marital Status.** Among the 65 respondents there are 53 married and 12 single men. Of the 53 married men 32 have from one to three children while 21 have none. There are a total of 49 children among 53 married men, making an average of less than one child per married man. Again no defense is offered.

**Conclusions and Practical Inferences.** This study was made for the purpose of getting a census of Arizona high school coaches, for discovering material useful to Arizona

TABLE XI  
COLLEGE SPORTS AND ACTIVITIES WHICH  
H. S. COACHES IN SERVICE RECOMMEND  
PARTICIPATING IN FOR PROFESSIONAL  
PREPARATION IN THEIR FIELD

Sports and Activities	No. Considering Activity Very Important	Per Cent	No. Considering Activity Important	Per Cent
1. Basketball.....	57	87.7	7	10.8
2. Football.....	56	86.2	7	10.8
3. Track.....	47	72.3	16	24.6
4. Baseball.....	32	49.2	24	37.0
5. Gymnastics.....	23	35.4	29	44.6
6. Tumbling.....	20	30.8	33	50.7
7. Swimming.....	17	26.2	36	55.4
8. Tennis.....	14	21.6	40	61.5
9. Boxing.....	11	16.9	37	57.0
10. Wrestling.....	9	13.8	34	52.3
11. Golf.....	9	13.8	31	47.7
12. Dancing.....	4	6.2	25	38.4
13. Debate.....	4	6.2	11	16.9
14. Dramatics.....	1	1.5	17	26.2
15. Music.....	1	1.5	11	16.9

teacher-training institutions, and to collect data for educational and vocational guidance. A return of over 90 per cent was received from check-list questionnaires sent to 72 coaches in all of the 60 public high schools in Arizona.

A range of from one to three men

TABLE XIII  
LODGE AND CIVIC ORGANIZATION  
MEMBERSHIP OF ARIZONA H. S.  
COACHES

Organization	No. of Men who are Members	Per Cent
1. Masons.....	14	21.5
2. Chamber of Commerce	9	13.9
Others (not specified).....	9	13.9
4. American Legion.....	7	10.8
Lions.....	7	10.8
6. Elks.....	4	6.2
7. Y. M. C. A.....	3	4.6
Kiwanis.....	3	4.6
Fraternity Alumni.....	3	4.6
10. Rotary.....	2	3.1
11. Odd Fellows.....	1	1.5
Scabbard and Blade.....	1	1.5
Commercial Club.....	1	1.5
20-30 Club.....	1	1.5
Junior C. of C.....	1	1.5

make up the departments of physical education and athletics in Arizona high schools, the median male enrollment of these schools being 65 with a range of from 10-2200 boys. The average Arizona high school coach spends from 8:06 1/2 a.m. to 5:26 p.m. at school; carries a teaching and coaching load of 44 hours per week; spends two nights per week in the fall and spring and three nights per week in the winter at school as a part of his regular duties; and spends 7.6 hours per week on "home work."

He entered his first job in the physical education field at the age of 23, has had but two different jobs in this field, and after approximately seven years experience receives an annual salary of \$1612 which is slightly less than the average of all Arizona high school teachers (\$1663). Over the past seven years the average beginning salary for the coach in his first position was \$1555. The reason for the

very small total increment of \$57 (\$1612 minus \$1555) which the average coach has received during his seven years experience (1927-34) can almost certainly be explained by the economic crash in the fall of 1929 and the resultant depression. In normal years the average teacher or coach in an Arizona high school would probably have received a seven year salary increase of \$543 (an average annual increment of \$77.66).

A study of the duties of these high school coaches brought out the following facts: (a) Subjects taught have this order of importance, (1) Physical Education, (2) History, (3) Science, (4) Commercial subjects, (5) Mathematics, (6) Industrial Arts, (7) English; (b) interscholastic sports have this order of importance, (1) basketball, (2) football, (3) track, (4) baseball, (5) tennis; (c) intramural sports are important in this order, (1) basketball, (2) track, (3) soft ball, (4) tennis, (5) volleyball, (6) touch football, (7) football.

The respondents in this study, who are high school coaches in service,

TABLE XII  
COURSES WHICH H. S. COACHES IN SERVICE  
RECOMMEND AS OF HIGH OR MEDIUM  
VALUE FOR PROFESSIONAL EDUCATION  
IN THEIR FIELD

Courses	No. Considering Course of High Value	Per Cent	No. Considering Course of Medium Value	Per Cent
1. First Aid.....	45	70.3	15	23.4
2. Physiology.....	42	65.6	11	17.2
3. Correctives.....	41	64.0	15	23.4
4. Psychology of Coaching.....	40	62.5	15	23.4
5. Anatomy.....	39	61.0	19	29.7
6. Methods in Teaching Physical Education Activities.....	39	61.0	18	28.2
7. Coaching Theory in Major Sports.....	38	59.4	18	28.2
8. Personal Hygiene.....	38	59.4	17	26.6
9. Administration of Athletics.....	38	59.4	15	23.4
10. Administration of Physical Education.....	37	57.8	17	26.6
11. Games and Minor Sports.....	35	54.7	20	31.2
12. Principles of Physical Education.....	34	53.1	22	34.4
13. Physiology of Exercise.....	34	53.1	19	29.7
14. Kinesiology.....	26	40.6	15	23.4
15. Physical Education Tests and Measurements.....	23	35.9	26	40.6
16. Technic of Teaching.....	23	36.0	25	39.0
17. Introduction to Physical Education.....	21	32.8	31	48.5
18. Public Speaking.....	19	29.7	23	35.9
19. Supervised Teaching.....	17	26.6	26	40.6
20. Scoutmastership.....	10	15.6	28	43.8
21. Educational Gymnastics.....	10	15.6	28	43.8
22. History of Physical Education.....	7	10.9	33	51.5
23. Chemistry.....	7	10.9	29	45.3
24. Zoology.....	7	10.9	25	39.0
25. Physics.....	6	9.4	21	32.8
26. Educational Dancing.....	5	7.8	15	23.4
27. Debating.....	5	7.8	14	21.9

made the following recommendations for professional training in their field:

It is essential to participate in college sports and activities in this order of importance, (1) basketball, (2) football, (3) track, (4) baseball, (5) gymnastics, (6) tumbling, (7) swimming, (8) tennis, (9) boxing, (10) wrestling, (11) golf.

Following is a list of 13 college courses considered of high value for professional education in the physical education field by more than 50 per cent of the coaches in service (arranged in order of importance). (1) First Aid, (2) Physiology, (3) Correctives, (4) Psychology of Coaching, (5) Anatomy, (6) Methods in Teaching Physical Education Activities, (7) Coaching Theory in Major Sports, (8) Personal Hygiene, (9) Administration of Athletics, (10) Administration of Physical Education, (11) Games and Minor Sports, (12) Principles of Physical Education, and (13) Physiology of Exercise. Twenty-seven courses were named in all.

Arizona high school coaches show



a wide variety of recreational interests, over 50 per cent of the coaches checking these activities, (1) reading, (2) attending theatres, (3) basketball, (4) hunting, (5) swimming, motoring. Twenty-six activities were checked in all, many of which were active sports.

A relatively low percentage of the coaches belonged to fraternal or civic organizations, Masons and chamber of commerce being the most popular of the two respective types of organizations. Most of the coaches are married (81 percent).

This study has served to bring together concrete facts about the position of athletic coach and physical education teacher in an Arizona high school. Many of the facts should be useful for vocational guidance in the field of the study. With the total picture of the position of high school coach available, the student contemplating a career in this field will have before him a charted course which will serve to guide him in fulfilling his professional ambitions.

## Second Wind

[Continued from page 23]

bonate of soda increased the alkalinity of the blood. The greater blood alkalinity lowered the sensitivity of the respiratory center and therefore the respiratory rate became lower. When exercise began, the blood was able to retain a greater amount of carbon dioxide. Meanwhile alkali was excreted by the kidneys, since blood alkalinity was raised artificially. The final result was a rapid accumulation of carbon dioxide in the blood and in the lungs. As Haldane showed, even a slight increase in carbon dioxide in the alveolar air such as .2% will double pulmonary respiration. No wonder that the respiratory rate in this athlete increased to an intolerable degree.

## Smoking and second wind

Readers are familiar with paid testimonials that at least one brand of tobacco "does not hurt the wind" of the athletes. Why then do most of the coaches insist on non-smoking in training? It is impossible to prove in every case that smoking of one cigarette shortens the wind. On the other hand it is impossible to prove that cigarettes do help in athletics. But the mere fact that advertisements insist on the harmlessness of smoking is significant. The trouble with amateur experiments in smoking lies in the lack of control and in the difference of responses by different individuals. Yet there are several factors that should impress an athlete and suggest to him the advis-

[Turn to next page]

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